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Cancer Patients at Diagnosis: Appraisals, Coping Strategies and Adjustment

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CANCER PATIENTS AT DIAGNOSIS:
APPRAISALS, COPING STRATEGIES AND ADJUSTMENT

by

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VITA

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TABLE OF CONTENTS

TABLE OF CONTENTS

LIST OF TABLES

CONTENTS OF APPENDIX

INTRODUCTION

A diagnosis of cancer represents a devastating personal event, not only because of its medical implications, but also because of the psychological distress that accompanies this most feared disease. The popular mythology that surrounds the diagnosis of cancer includes the misconceptions that cancer is a unitary disease entity and that it is always fatal. These images often make cancer diagnoses even more difficult for patients and their families than other medical problems which are, in fact, more deadly.

In the past two decades, research on the psycho-social impact of cancer has burgeoned in the fields of medicine, psychology, psychiatry, nursing, sociology and pastoral care. The bulk of this research has focused on psychological morbidity and the quality of individuals' lives as they undergo treatment. As a result, there is now substantial research documenting the negative impact of cancer on various aspects of patient's lives. Emotional distress in response to diagnosis and to medical treatment has been widely reported and includes: depression, anger,

guilt, feelings of helplessness, loss of self esteem, and anxiety (Goldberg & Cullen, 1985). Problems in daily functioning in areas such as employment, friendships and other social interactions, and family relations have also been identified among cancer patients (Friedenbergs et al., 1982). Physical symptomology arising from the disease itself, its treatment and from psychosomatic sources has also been studied (Farber, Weinerman & Kuyers, 1984; McCorkle & Quint-Benoliel, 1983).

While problems in these three general life areas -- emotional, functional and physical -- are encountered frequently by cancer patients, there is considerable variation in the severity and types of problems experienced. As a result, recent research has attempted to identify factors related to adjustment. As an outcome variable in research, the construct of adjustment has usually included measures of one, two or all three problem areas. Thus, good adjustment to cancer in many studies has been operationalized as the absence of emotional, functional and/or excessive physical distress, usually as measured by self-report or by interviewers' judgements. The focus of much of the current research, therefore, has been on why and how some cancer patients are able to cope with their disease, while others are left emotionally, functionally and physically disabled.

The construct of successful adjustment to cancer has

most recently been defined by many researchers as the ability to cope with the disease. Studies attempt to distinguish and predict "successful copers" from "unsuccessful copers." Wide differences in how patients cope with cancer have led researchers to try to identify coping strategies that minimize distress and allow patients to best retain their emotional, functional and physical integrity.

Research on how patients cope with cancer has most recently begun to emphasize the cognitive component of the coping process. Examination of how patients differ in how they understand their disease and its perceived consequences has suggested possible relationships between appraisals, coping and adjustment.

The present study examined the relationship between cognitive appraisals, coping strategies and adjustment in a group of newly diagnosed cancer patients. Descriptive information about how the patients understood their diagnosis and prognosis was gathered. Patients discussed the problems their diagnoses raised and how they had been coping with these problems. Measures of psychological, functional and physical adjustment were completed. The impact of appraisals on coping and adjustment were examined. Finally, the study focused on two groups of patients whose appraisals were expected to differ from one another -- lung cancer patients and a mixed type group of cancer patients.

LITERATURE REVIEW

Coping with Cancer: Two Perspectives

There are two related, yet distinct, theoretical and experimental traditions in the coping with cancer literature. The first of these is the "crisis literature," based on the work of Caplan (1964). Current approaches to crisis theory hold that unexpected events that result in severe psychological distress (because they cannot be handled through customary problem solving methods) lead to a period of disorganization. New coping strategies are attempted. If these new strategies cannot resolve the crisis, depression, helplessness, anxiety and lowered self-esteem result. Regardless of whether the precipitating event is still present, the crisis is eventually resolved. This resolution may be either adaptive or maladaptive, but it occurs within four to eight weeks after the initial crisis (Smith, 1970; Lewis, Gottesman & Gustein, 1979).

These assumptions about crises have been examined using a variety of laboratory-produced and real-life crises. Research support that specific psychological changes do occur after crises in general appears strong (Amerbach &

Killman, 1978). Research on "cancer as crisis" confirms that some psychological and coping strategy changes also occur in cancer patients. However, assumptions about the duration of crises have not been supported for cancer patients.

Lewis, Gottesman & Gustein (1979) examined the experiences of 23 patients hospitalized for exploratory surgery that they knew might reveal cancer, and later did. This group was conceptualized as undergoing crisis. In order to control for the impact of the surgical procedure itself, this group was contrasted with a general surgery group of 23 patients being operated on for conditions such as hernia repair and gall bladder removal who were conceptualized as undergoing short-term stress, rather than crisis. Both groups were given psychological tests that assessed depression, anxiety, locus of control, self-concept and general crisis level. The measures were administered on the evening before surgery and at 2, 5 and 8 weeks post-surgery. A Solomon four-group design was used to control for possible repeated administration effects. Only the cancer group underwent significant psychological changes, with helplessness preceding depression and lowered self-esteem (Lewis et al., 1979, p. 128). However, the crisis of a cancer diagnosis was not resolved in the eight weeks of the study. Follow-up contact with the cancer group seven months later did show that among those 17 who returned

the measures, there was a decrease in anxiety and depression. The authors feel this suggests some resolution of the crisis and supports a time limit for crises on some variables.

Another study of cancer patients following from the crisis literature also finds that the crisis of cancer diagnosis is not as quickly resolved as has been hypothesized. Krouse and Krouse (1982) studied the course and duration of the crisis experienced by 19 women cancer patients. A depression measure and a body image questionnaire were administered prior to surgery, at four weeks post-surgery and at eight weeks post-surgery. A final follow-up was mailed at 20 months post-surgery. In analyzing their findings, Krouse and Krouse differentiated among three cancer groups: mastectomy, gynecological and breast biopsy (no-treatment). While mastectomy and biopsy patients showed successful adaptation within eight weeks, the gynecological patients experienced increased depression and a worsening body image over time.

This last finding suggests that the crisis of cancer itself may depend on the cancer type or site. There is also evidence in the cancer as crisis literature that cancer may be a different type of crisis than other medical conditions. Cancer patients appear to be characterized by stronger and distinctly different psychological reactions including greater mood disturbance and greater feelings of

helplessness.

Gottesman & Lewis (1982) examined whether crisis reactions differed among cancer and surgery patients. Depression, anxiety, locus of control, self concept and crisis severity were assessed for 31 cancer patients, 15 surgery patients and 15 healthy controls. Patients were assessed on the evening prior to surgery, and at 3, 7, 11 and 15 weeks post-surgery. The experimental design controlled for the potential effects of repeated testings. Cancer and surgery patients reported higher crisis severity scores than did healthy controls. However, cancer patients also reported greater feelings of helplessness than did the other two groups. Thus, the authors conclude that cancer produces a crisis characterized by helplessness which differs from the crisis experienced by surgery patients. Finally, none of the variables associated with crisis lessened over the 15 weeks of the study, suggesting the duration of these two medical crises is longer than crisis theory would predict.

McCorkle and Quint-Benoliel (1983) also compared the crisis experience of cancer patients to that of other medical patients, in this case, heart attack patients. Fifty-six lung cancer patients and 65 heart attack patients were interviewed one and two months post-diagnosis. A physical symptom distress measure, an inventory of possible problem areas and the Profile of Mood States (POMS) were

administered. Cancer patients were found to report greater symptom distress, and more mood disturbance than heart attack patients. Both groups reported less distress at the two month follow-up. Again, these authors suggest that a cancer diagnosis initiates a crisis that differs significantly from that brought on by other medical conditions.

The second theoretical and experimental tradition which has been used as a basis for work on coping among cancer patients is the "coping literature." This work is characterized by the theories of Richard Lazarus (1985). Lazarus views coping as a process and, therefore, as situation or problem specific. This notion that an individual copes differently given different problems or situations challenges the common assumption of characteristic "coping styles." Coping styles or traits are assumed to be the enduring, habitual methods with which a person consistently reacts to most problems (Morris, Blake & Buckley, 1985).

The notion that people respond to problems with a characteristic style led many researchers to test people's tendency to use a particular coping strategy across different situations. These studies, reviewed by Cohen and Lazarus (1980), have found weak or no associations between actual behaviors (outside the laboratory) and reported "usual style" of coping. Lazarus' work also challenges the

"stage models" of coping with serious life events. One such model, developed by Kubler-Ross (1969) states that individuals facing life threatening events experience each of the following stages: 1) shock and denial, 2) anxiety, 3) guilt and anger, 4) depression and 5) resolution. Though similar stages have been reported in cancer patients (Falek & Britton, 1974, for example), stage models of coping with traumatic events have generally not been well supported by the research literature (Morris, Blake & Buckley, 1985). These stage models are also contrary to Lazarus' coping model which focuses not on a shared, common experience, but on the unique and specific strategies with which individuals approach each situation they define as problematic.

Cancer research based on Lazarus' coping tradition has adopted his premise that patients cope uniquely and only with those situations they define as problems. Thus, most of this research has stressed the personal and subjective experiences of cancer patients, often in a descriptive fashion. Project Omega of Harvard Medical School, and its principal investigators, Weisman and Worden, are pioneers in this research tradition. Their research methodology using coded data from semi-structured interview measures has greatly increased our knowledge of how patients cope with cancer.

In one of very few longitudinal studies investigating how coping and adjustment are related among cancer patients,

Weisman and Worden (1976) followed 120 cancer patients over their first 100 days after diagnosis. This group included breast, lung, Hodgkin's, colon and malignant melanoma adult patients. The authors identified coping strategies using an interview measure that had patients spontaneously report problems and the strategies they used to address each problem. Each strategy was then grouped by the interviewer into one of fifteen categories. Adjustment was assessed using the Profile of Moods Scale (POMS), the Thematic Apperception Test (TAT) and the Minnesota Multiphasic Personality Inventory (MMPI). The authors identified three strategies as associated with positive adjustment: confrontation, redefinition and compliance with authority. "Poor" coping strategies included suppression/ passivity, stoic submission and tension-reducing strategies.

Worden and Weisman have also examined other aspects of the cancer experience. They have discussed the concept of delay in seeking treatment (Worden & Weisman, 1975), have identified early clues to patients vulnerable to later distress (Weisman, 1976), and, more recently, have developed a screening instrument to identify patients at risk for developing later emotional distress and for poor coping (Worden & Weisman, 1984; Worden, 1984). Project Omega's greatest contribution, however, may be in the research philosophy and instruments they have developed for assessing coping among cancer patients. Other researchers have used

and revised this methodology so that it now offers an established way of assessing coping among cancer patients following Lazarus' model.

One such use and revision of Project Omega's work is represented by the research of Gotay. Gotay (1984) examined the problems and coping strategies of early and advanced stage breast cancer patients and their spouses. Data were collected via personal interviews and were categorized using a modified version of Weisman and Worden's (1976) measure mentioned above. Gotay found differences between the two patient groups, between the two spouse groups and between patients and spouses overall in problems identified and in coping strategies used. However, she reports that similarities between the groups "were more striking than differences" (Gotay, 1984, p. 605). Gotay does not address the relation of these various coping strategies to outcome measures, but she does point out the need to examine those strategies that may predict or at least be correlated with successful adjustment.

Thus, the crisis literature and the coping literature have both contributed to research on coping among cancer patients. The two areas obviously have overlapping concepts and methodologies. However, the contributions of each have not been regularly combined in cancer research thus far. Despite this lack of integration, there is one aspect common to both traditions which has been incorporated in current

research on coping among cancer patients. Both traditions have encouraged an emphasis on the patient's cognitive experience of cancer.

Cognitive Appraisals of Cancer Patients

An emphasis on the patient's cognitive experience of cancer seems to be on the cutting edge of both research traditions investigating coping with cancer and cancer diagnosis. The crisis literature, which studies reaction to adverse life events, has suggested that cognitive factors such as the meaning one attaches to a stressor may greatly influence how one responds to it. Beecher's (1956) classic study of how the significance of wounds relates to the pain they cause is an example. Elsewhere, causal attributions and beliefs in control have emerged as important variables that might influence adjustment (Averill, 1973; Bulman & Wortman, 1977; and Thompson, 1981). Belief in a just world also seems to be important in appraisals of an aversive situation (Lerner, 1971).

Taylor (1983) explores her theory of cognitive adaptation to threatening life events using as her guide the experiences of 78 women with breast cancer whom she and her colleagues interviewed. In her discussion of how these women have met the challenge of adaptation to their illness, Taylor relates three common themes: the search for meaning in the experience, the attempt to regain mastery over the

event, and the effort to restore self-esteem. Taylor's major thesis is that to address these three major themes, the well-adjusted cancer patients in her study used sets of cognitive illusions which enabled them to look at the "known facts in a particular light" in order to "buffer not only against present threats but also against possible future setbacks" (Taylor, 1983, p. 1161). Taylor's discussion offers not only a valuable theoretical framework, but also many potentially testable variables which can be assessed empirically within that framework.

In an empirical report of her team's findings, Taylor offers just such an effort. Taylor, Lichtman and Wood (1984) report on the cognitive appraisals of 78 breast cancer subjects. Data were collected during an extensive interview with each woman as well as via a packet of questionnaires that included: two locus of control scales, one general and one concerning health; the Profile of Moods States (POMS); a self-esteem measure; an index of well-being and a marital satisfaction scale. In addition, subjects completed a general questionnaire that included a list of potential causes for their cancer, and questions about beliefs in retrospective control, sexual functioning and religious convictions. Medical chart material was also collected. Adjustment measures included ratings of adjustment by the patient and by her physician, self-reported emotional distress, and the measures mentioned

previously in the packet of questionnaires.

Among their significant findings, Taylor, Lichtman and Wood (1984) report that 95% of their subjects reported some causal attribution for their cancer. Their study also revealed that: a) those who blamed others for their illness were less well adjusted, b) belief in one's own and in one's physician's ability to control the course of the disease was associated with better adjustment, and c) among the types of control assessed, cognitive control was more strongly related to adjustment than was behavioral control, information control and retrospective control. It should be noted that this study included women in various stages of illness and that interviews occurred from one to sixty months post-surgery.

Cognitive factors have also been central in the studies that follow the tradition of the coping literature. Lazarus theorizes that an individual's cognitions are the core of his/her emotional reactions. Cognitive appraisals, therefore, form the basis of Lazarus' coping model (Folkman, Schaeffer & Lazarus, 1979). Researchers of coping among cancer patients who follow Lazarus' model have assessed cognitive factors and their relationship to adjustment.

Cognitive appraisals of cancer patients who have been examined in the Lazarus tradition include the study of attributions in women cancer patients. Gotay's population, which has been described earlier, consisted of 73 early and

advanced stage breast and gynecological cancer patients. Gotay also interviewed many of these women's spouses. In this study (Gotay, 1984), she discusses attributions of causality reported by her subjects. Semi-structured interviews were conducted to collect attribution data. Subjects were asked how they had addressed the question "why me?," and were asked to assign a percentage of blame to each of the following four factors: 1) yourself -- the kind of person you are, 2) things you have done, 3) the environment or other people, and 4) chance. Gotay included four measures of adjustment in her study: a) mood, b) the amount of stress the patient felt, c) the patient's own perception of her adjustment, and d) social adjustment.

Results indicate that most of these patients cited chance as the cause of cancer. One-fifth to one-quarter of the patients interviewed, however, said they had not asked themselves the question "why me?." As assessed by the structured attribution measure, most of the blame was placed by most subjects in the "chance" category. Advanced stage patients attributed more blame to the self on this task than did early stage patients. Adjustment measure analysis showed few significant findings. There were few inter-group differences. Further, cancer patients did not differ significantly on adjustment measures as compared to the general population.

Another study which examined cognitive appraisals in

cancer patients following Lazarus' model is Linn, Linn and Stein's (1982) examination of beliefs about cancer. Linn, Linn and Stein compared 120 advanced-stage cancer patients' beliefs about the causes of cancer with those of 120 medical patients who did not have cancer. The data indicate that cancer patients had significantly weaker beliefs about the causes of cancer than did other medical patients. Even among the cancer patients who smoked, beliefs about the influence of smoking on developing cancer were lower than among the non-cancer patients. Linn, Linn and Stein found that cancer patients were more likely to attribute causality to God's will or to genetic factors than were non-cancer patients. The authors interpret their findings as demonstrating that "cancer patients need to defend themselves against self-blame as a means of coping with a terminal disease" (Linn, Linn & Stein, 1982, p. 835).

Finally, another study of cancer patient's cognitive appraisals which generally follows Lazarus' model is Burish et al.'s (1984) study of 62 cancer chemotherapy patients. Burish et al. examined these patient's health locus of control and its relation to the experience of side effects during treatment. Using self-report measures of nausea and discomfort as well as physiological measures of arousal, the authors found that patients with a high external locus of control had fewer side effect problems following a psychological training program. The authors conclude that

an external locus of control may be advantageous in medical situations where little personal control is possible.

From two distinct theorectical and research traditions, therefore, cognitive appraisals appear vitally important to adjustment in cancer patients. Seven cognitive factors have emerged as most in need of further investigation from these and other studies of coping with cancer. These factors are: different levels of awareness of one's illness, delay in seeking treatment, the search for meaning, specific causal attributions patients may make for their illness, a sense of control -- both personally and confidence in one's physicians, social comparisons, and blame. Of these, blame, and especially self- blame, has been most often studied among cancer patients. Because cognitive variables are of primary interest in the present research, they are discussed in detail in the following section.

Dimensions of Cognitive Appraisal

The cognitive variable of level of awareness or degree of knowledge about one's illness has often been assumed to be an important factor in predicting a cancer patient's adjustment. However, few researchers have examined this fundamental appraisal empirically. Moses and Cividali (1966) did study this aspect of a patient's cognitive appraisal by classifying 30 cancer patients into three

different levels of awareness or "degrees of denial." No correlations between awareness level and demographic variables or prognosis were found, except that awareness was positively related to education level. Other analyses revealed that delay in seeking treatment was related to awareness level, with patients who demonstrated little awareness reporting more delay. Level of awareness was also found to be related to the amount of overt anxiety and fear experienced, as judged by the authors. This analysis showed that moderately or intermediately aware patients suffered higher levels of anxiety and fear than did patients whose awareness was classified at either extreme -- that is: either minimally or maximally aware. The authors summarize: "it seems that both minimal awareness, ie: greatest denial of illness, and maximal awareness, ie: least denial of illness, tend to decrease overt anxiety and fear" (Moses & Cividali, 1966, p. 991). This last finding is at least partially supportive of theories that denial can be stress-reducing and thus an adaptive defense against the immediate emotional distress caused by diagnosis (see, for example, Levine & Zigler, 1975). Weisman (1976) reports that patients with different cancer types report different knowledge levels.

Another cognitive variable just mentioned and also noted as important in understanding how cancer patients appraise their illness is delay in seeking treatment. While

Moses and Cividali (1966) and others view delay as a manifestation of denial, Worden and Weisman (1975) suggest that the term "delay," with its focus on blaming the patient for allowing the disease to progress to a more advanced stage before seeking treatment, be dropped. They cite as evidence their study of 125 cancer patients of varying types in which delay was found to be related to more advanced staging at diagnosis only for breast cancer patients. Despite this finding and their larger argument, Worden and Weisman did find that longer delays were associated with more denial and more strongly held beliefs that their cancer was not serious.

A third variable examined as a significant cognitive appraisal among cancer patients is the search for meaning. Gotay (1985) and Taylor's (1983) work, already described, have focused on this factor and its relationship to successful adjustment. Gotay found that almost one-quarter of her cancer patients did not ask themselves the question "why me?". But, when asked to generate causal attributes for the cancer, 95% of Taylor's (1983) women eventually offered a response. It appears from these two studies that the assessment of the need for cancer patients to find an explanation for their plight depends a great deal on how this variable is operationalized. Further, research suggests that that the point in the disease process at which the patient is questioned may be of importance in assessing

this variable. Taylor, Lichtman and Wood (1984) found that 71% of their breast cancer patients reported that the question of what caused their cancer was not important to them at diagnosis. It should be noted, however, that this report was retrospective. Gotay's (1985) study which is not retrospective, shows little difference between early (usually recently diagnosed) and advanced stage patients on the importance of this variable.

Specific attributions of causality have also been examined along with the work cited on search for meaning. Both Gotay (1985) and Taylor (1983) find no relationship between any particular attribution or sets of attributions and adjustment. It is not noted, however, whether the responses to open-ended requests for possible causal factors were grouped in terms of their attribution to self, other or chance. In light of the blame literature to be discussed shortly, such analyses may show a relationship between types of particular causes and adjustment.

A fifth cognitive variable which has been examined in the coping with cancer literature is the sense of personal control patients feel and the sense of confidence they have in their physicians' ability to control the course of their illness. Taylor, Lichtman and Wood (1984) found that patients' beliefs that they could exert personal control over the course of their illness were correlated with positive adjustment. Patients' beliefs that their

physicians could influence their disease's course were also correlated with better adjustment. This study, however, was conducted with cancer patients who had been in treatment for an average of two years. Averill's (1973) review of perceived personal control over aversive events implies a different scenario for newly diagnosed cancer patients. Averill's work suggests that perceived control is stress reducing in the long run, but stress inducing in the immediate, short run, crisis period. Denial and fewer beliefs about personal control during this acute, crisis period are more likely to reduce stress and emotional distress immediately. This possiblity is supported by Gottesman and Lewis' (1982) work described earlier in which newly diagnosed cancer patients scored high in helplessness and expressed fewer feelings of personal control than did surgery patients used as comparisons.

A sixth cognitive variable mentioned in the literature as important in understanding how cancer patients appraise their illness is the use of social comparisons. Taylor (1983) reported that the breast cancer patients she studied used social comparisons as a self-enhancing coping mechanism. Downward social comparisons, that is: comparing one's self to fellow patients who are sicker, were found to be the most common comparisons made. Again, the question of when in the course of the disease process this strategy emerges is unanswered.

The final, and most thoroughly researched cognitive factor which appears to influence adjustment in cancer patients is blame. This concept is closely tied to the variables of the search for meaning and causal attributions, previously described, Thus, many aspects of blame have already been mentioned. However, self-blame has been the particular focus of much discussion in the cancer literature. In an early study, Bard and Dyk (1956) reported that most of the spontaneous remarks of surgery patients about the causes of cancer and other serious illnesses grouped into beliefs which were self-blaming and those which were blaming of others, including God. Moses and Cividali (1966) report that 28 of the 30 cancer patients they studied displayed a "mixture of blame and guilt." Eight of these clearly blamed themselves for their illness, while the other 20 patients blamed others or outside forces (Moses & Cividali, 1966, p. 991). More recent studies have also identified self-blame as a critical aspect of cancer patients' appraisals of their illness. As was reported earlier, Linn, Linn and Stein (1982) found that late stage cancer patients held less firm convictions about the etiology of cancer than did non-cancer patients. Further, cancer patients were more likely to endorse causes which emphasized luck, chance or fate than were non-cancer patients who more often endorsed behavioral, environmental and other potentially avoidable causes. In Taylor, Lichtman

and Wood's (1984) study, 41% of their breast cancer patient sample blamed themselves when asked in a forced choice paradigm to attribute responsibility for their illness to self, other, environment or chance. Thus, self- blame appears to be a common experience among many cancer patients.

Despite the prevalence of self-blame in this population there is, surprisingly, no consensus in the literature as to the consequences of blaming one's self for developing cancer. There are, in fact, at least three competing theories linking self- blame and adjustment. These three theories differ in their conceptualizations of the purpose that self-blame serves, and thus also in the nature of the adjustment self-blame predicts.

The first theory to examine the relationship of self-blame to adjustment in cancer patients is exemplified by Abrams and Finesinger (1953). These researchers found that 31 of the 60 cancer patients they studied made statements indicating that they considered their illness to be their fault. Twenty-seven others blamed others for their illnesses. The authors discuss the consequence of these attributions of blame in terms of guilt feelings, which they actually recorded or inferred from statements patients made. They go on to discuss how guilt stimulates feelings of inferiority, inadequacy, dependency and rejection. This theory that self-blame leads to guilt, which then leads to

more distress and poorer adjustment, is intuitively attractive. It seems a common sense argument to assume that blaming oneself would lead to guilt. And the dangers of guilt are commonly agreed upon. The Abrams and Finesinger model, therefore, has been widely adopted. Weisman and Worden (1976), for example, also see self-blame as leading to maladaptive guilt in cancer patients.

A second theory relating self-blame to adjustment is more complex. Bulman and Wortman (1977) studied the causal attribution of newly paralyzed spinal cord injured patients and measured their ability to cope with their misfortune. Their work compares Lerner's "just world hypothesis," which holds that we need to believe that people get what they deserve and deserve what they get, to Shaver's discussion of "defensive attributions," used to assign causality in order to maintain self-esteem (Bulman & Wortman, 1977, p. 351).

In investigating these two theories, Bulman and Wortman tie the use of defensive attributions to efforts to maintain or regain a sense of personal control. Bulman and Wortman's findings support this last hypothesis in that not only was there clear evidence of a correlation between attributions of blame and patients' ability to cope, but self-blame was positively correlated with effective coping. "The person who coped best saw the accident as following logically and inevitably from a freely chosen behavior... [The need for] an orderly relationship between one's

behaviors and one's outcomes ... is consistent with the need for control" (Bulman & Wortman, 1977, p. 362). The researchers also found that victims attributed more blame to themselves than was warranted objectively. While Bulman and Wortman's study raises many other issues, their finding that self-blame is correlated with better adjustment is of most importance to this discussion. Their resulting theory that self- blame results in an increased sense of control and thus in better adjustment, has also found support in the results of a study by Janoff-Bulman (1979). In this study, victims of rape also used self-blame apparently to increase feelings of control in order to cope better with the event.

The final possibility is that self-blame and adjustment in cancer patients are simply not related. There is research evidence in support of this claim as well. Taylor, Lichtman and Wood (1984) found that self attributions of responsibility for cancer were not correlated with adjustment. Gotay (1985) also found no relationship between attributions of self-blame and adjustment. Taylor et al. do, however, replicate Bulman and Wortman's (1977) finding that blaming others is associated with poorer adjustment.

There are, therefore, three different theories of the consequences of self-blame. Each predicts a different adjustment outcome for victims of aversive events who hold themselves responsible. Further study of how self-blame

relates to adjustment in cancer patients promises to lend support to one of these theories.

The relationship of the seven cognitive appraisals dimensions just reviewed to coping and to adjustment is, therefore, a complex one. Different appraisals logically lead to differential coping strategies which, in turn, lead to more or less successful adjustment outcomes. In addition, appraisals determine which situations and which aspects of the cancer process are seen by that individual patient as problematic. Thus, cognitions will not only affect the type of coping strategies used, but even more fundamentally, will influence the types of problems to which they will be applied. Adjustment is thus dependent on how successfully the patient is able to address the problems raised by his unique congitive understanding of what cancer means to him.

In investigating these issues, a mumber of methodological and conceptual problems must be addressed. These include: the definition and measurement of adjustment, the time period for assessment, and the type of cancer patient studied. These problems are discussed in the following section.

Methodological Issues

The Definition and Measurement of Adjustment. Research on coping has traditionally defined adjustment as the

presence or absence of psychiatric symptoms. Thus, common measures of adjustment used are usually tests designed for, and normed on, psychiatric populations. However, this longstanding definition of good adjustment or mental health as the absence of psychiatric pathology has been recently challenged, especially as it has been applied to cancer patients.

One challenge to the view that an absence of psychiatric symptoms among cancer patients is evidence of good adjustment is in the area of survival time. The most often cited work looking at survival time as the "ultimate" outcome measure of adjustment is a study by Derogatis, Abeloff, and Melisaratos (1979). In this study, 35 women with metastatic breast cancer were given a battery of psychological tests which generated baseline data. Results of these tests were later correlated with length of survival. Patients who survived over a year were found to have been more symptomatic than those who died within the year. This surprising finding has been replicated by other researchers. In these studies, patients scoring high in adjustment, that is, with fewer psychiatric symptoms, tend to die sooner than those who score as more psychologically distressed. This result has generated further research into which coping strategies (such as anger toward other including physicians and denial), and which psychosocial variables might characterized "good copers."

Weisman and Worden (1975) studied the records and interviewed the surviving family members of 35 terminally ill cancer patients of various types to perform "psychological autopsies." Their work suggests that cancer patients who maintained cooperative and mutually responsive relationships with others and who escaped depression and apathy lived longer than would be expected given the severity of their illnesses. Higher assertiveness was also associated with longer survival.

However, other researchers have failed to find any relation between psychological factors and survival time. In their study of 359 cancer patients, Cassileth, Lusk, Miller, Brown and Miller (1985) found no relation among these factors: social ties, marital history, job satisfaction, use of psychotropic drugs, general life satisfaction, subjective view of adult health, degree of helplessness/hopelessness, and perception of the amount of adjustment needed to cope with the new diagnosis; and the length of survival or time to relapse.

Beyond this question of whether survival time is our "ultimate" outcome measure, is the issue of whether psychiatric symptom definitions of health or dysfunction can be applied uniformly and meaningfully to chronically ill populations. Cella (1985) asks what a "fighting spirit" against illness looks like on psychiatric measures of adjustment. He further notes that most cancer patients fall

"within normal limits" on such measures (see, for example, Farber, Weinerman & Kuypers, 1984). Cella calls for new, non-psychiatric measures which assess both psychological functioning and biological or "illness-oriented" adjustment (Cella, 1985).

Cella's call for new measures of adjustment in cancer patients emphasizes the psychological or emotional and the physical aspects of adjustment. There is, however, growing support for also including a measurement of the quality of patients' lives as they undergo treatment for their cancer. The "quality of life" literature on cancer patients is vast, and comes out of a very different tradition than those studies discussed thus far (de Haes & van Knuffenberg, 1985). It will not be reviewed here. But one aspect of adjustment which is well represented in this area is functional adjustment. This refers to the proportion of normal activities the patient is able to perform and enjoy. Activities include work duties, household and parenting responsibilities, friendships, family and other social obligations, and leisure time activities. The distinct dimension of functional adjustment has been demonstrated empirically by Schipper, Clinch, McMurray and Levitt (1984) as well as by other researchers. Schipper et al.'s study of over 800 cancer patients documents the often observed discrepancy between traditional adjustment measure scores and overall actual functioning. Functional adjustment,

emotional or psychological adjustment, and physical health, therefore, must all be considered in measuring adaptation to stressful events.

Examining the cognitive appraisals of cancer patients, their coping strategies and their adjustment thus appears to address the major issues raised thus far in the literature on how cancer patients cope with their illnesses. However, previous research raises two other critical issues for the study of cancer patients. These factors are: the time period in the course of the disease which should be studied and the type of cancer patient which might be evaluated.

Assessment Time Period. Another methodological issue raised in the literature concerns when patients are studied. Since a patient's cognitive appraisals of his or her disease appear to be critical to the coping process and to adjustment, it seems important to focus on the time period in which these appraisals are being formed. Obviously, pre-morbid knowledge, myths about cancer and previous experience with the disease will have a powerful influence on the appraisals of newly diagnosed cancer patients. The onset of symptoms will also influence initial cognitive appraisals. But it seems there is something about the experience of actually hearing "you have cancer" which initiates the cognitions unique to cancer patients. Recall, for example, the differences in beliefs about cancer reported by Linn, Linn and Stein (1982) between cancer and

non-cancer medical patients. It is well established that attributional search, focused on causality, takes place when one's experiences cannot be readily assimilated into one's existing belief system, especially if the event is both negative and unexpected (Wong & Weiner, 1981). It seems the diagnosis of cancer is such an event. The period immediately following diagnosis, therefore, seems important for examining the cognitive appraisals of cancer patients.

Studies focusing on the period of diagnosis have evaluated a variety of factors. The emotional impact of a diagnosis of cancer has been reported in both empirical studies and in personal testimonies. Abrams and Finesinger's (1953) discuss the unique cognitions and fears of cancer patients and the hesitancy and secretiveness of physicians in communicating the patient's diagnosis. Though their interviews of 60 cancer patients in the diagnosis process or just newly diagnosed is perhaps outdated given the vast improvement in survival and treatment of cancer, Abrams and Finesinger's observations remain telling. In particular they noted feelings of guilt, fear, disgrace, inadequacy, dependency and rejection among cancer patients around the diagnostic period.

Another study which documents the emotional upheaval of the diagnostic period is reported by Hughes (1982). Forty-four breast cancer patients were interviewed prior to mastectomy and at three points during the following year.

Thirty-five of these patients "expressed emotional distress related to the diagnosis or the loss of the breast or both," as measured by a general health questionnaire and semi-structured interview (Hughes, 1982, p. 277). In only eight cases (18% of the sample) was this reported distress judged to be severe. Hughes also reports that 48% of the patients did not admit to any worry about the diagnosis. Most distress was expressed about the mastectomy itself or about side effects of chemotherapy.

Hinton (1973) reviews the literature and discusses the reactions of people who develop cancer in a published record of a lecture he gave in 1971. He describes the initial disruption of a cancer diagnosis as "numbing," with patients feeling stunned and dazed. Hinton identifies fears of patients which include fear of the future, pain, disfigurement, the loss of a work role, dependency, and alienation as occuring after the initial shock of diagnosis.

In a study which has already been described, Weisman and Worden (1976) interviewed and administered adjustment measures to 120 patients with various types of cancer. They report that despite hospital policy of full disclosure, "about ten percent of newly diagnosed patients still professed to have no knowledge of their diagnosis, despite being told" (Weisman & Worden, 1976, p. 7). Further, their study explores the "existential plight" of cancer patients as they struggle with life/death concerns and fears about

mortality in the first 100 days following diagnosis.

Muslin (1984) also describes the emotional upheaval of cancer diagnosis. His discussion of the transformations which the self undergoes in response to diagnosis and the disease course centers on a discussion of how pre-morbid personality structure influences the patient's response. Muslin notes that a newly diagnosed patient will "react to the illness in terms of the meaning of the illness" and that self-disorganization of varying degrees will inevitably follow (Muslin, 1984, p. 109). Muslin discusses disavowal, denial, fragmentation, anxiety states, depression, mourning and withdrawal as common responses to diagnosis. The restoration of self occurs through disavowal, regression, selfobject bonding or insight, according to Muslin. Thus, Muslin views a diagnosis of cancer as a disorganizing event for the self and sees successful coping as the subsequent repairing of this self.

Researchers who subscribe to stage models of response to life threatening crises also focus on the period immediately following diagnosis as one of disbelief, shock and denial. Levine and Zigler (1973) compared lung cancer, stroke, and heart disease patients and healthy controls. The sixty patients were newly diagnosed. The authors administered questionnaires designed to assess the disparity between subjects' real and ideal self-images. In addition, a satisfaction with health questionnaire was administered.

Results were interpreted as evidence that the three patient groups employed denial, with stroke patients employing greatest denial, followed by lung cancer patients and then heart patients. Levine and Zigler conclude: "the defense mechanism of denial plays an important and even critical role in the adjustments of seriously ill patients" (Levine & Zigler, 1975, p. 757).

Other research has also viewed the diagnostic period as the first in a series of stages of coping. Falek and Britton (1974) discuss the experience of Huntington's Disease patients using such a framework. Their findings of cyclical phases of coping including shock and denial, anxiety, anger and guilt and depression, draw in part on studies of cancer patients. Their emphasis on diagnosis is as marker of the beginning of the first stage of this process. Moses and Cividali's (1966) study of cancer patients, reviewed earlier, also views an initial period of disbelief and denial as the first stage of coping following diagnosis. Scott and Eisendrath (1986) present a theoretical model of recovery following diagnosis of breast cancer which also draws heavily on stage models of coping.

Finally, there are several studies, already reviewed, which speak to the cognitive experiences of patients at diagnosis. Morris, Blake and Buckley (1985) present a complex method for rating cognitive responses to cancer diagnosis. Based on extensive analysis of interviews with

15 cancer patients three months after diagnosis, categories of statements about their illness were determined. Cognitive responses included appraisals which were the patients' evaluations of their diagnosis, mitigating statements which reduced the impact of thoughts about diagnosis, and facilitating responses which encouraged them to think positively about their lives.

Other researchers have also looked at cognitions of cancer patients at or shortly after diagnosis. Gotay's (1985) study of attributions of causality included 42 early-stage gynaecological cancer patients who had recently been diagnosed. Differences in attributions between these patients and advanced-stage patients underscore the importance of the time period in which assessments are made. Taylor, Lichtman and Wood (1984) report that their breast cancer patients retrospectively reported less of a need for causal explanations early in the cancer process, again suggesting that the cognitive appraisals of patients at diagnosis may differ from those of patients who are further into the disease process.

While the majority of studies on cognitive appraisals, coping and adjustment among cancer patients have not distinguished between the experiences of newly diagnosed patients as opposed to those later in the disease process, the time element appears to be a critical piece in understanding the experience of cancer. In their broad

literature review of factors important to psychological adjustment, Goldberg and Cullen (1985) identify six areas of special interest at diagnosis. These are: the psychological meaning of cancer to the patient, information about the diagnosis and its implications, concerns about the future, the patient-physician relationship, a history of psychiatric difficulties and ego defensive functioning. Focusing on the period of diagnosis, therefore, appears important not only in that initial cognitions form at this time, but also because research exists which suggests that appaisals, coping strategies and adjustment may differ for patients at diagnosis than for patients later in the disease process.

Cancer Type. A final issue which has been suggested by previous research as an important variable to consider in studying cancer patients is the particular cancer population to be studied. As mentioned, cancer is not a unitary disease and cancer type is an important consideration in interpreting any research finding. Throughout the cancer literature are suggestions that cancer type may play a role in the patient's psychological, functional and physical experience, and thus in the patient's ability to cope.

Interestingly, however, there has been little research addressing the issue of cancer type as it relates to coping and adjustment. For the most part, research has tended to focus on one cancer type or simply considered different types of cancer patients as one entity. Breast cancer and

the psychological consequences of its treatment have been especially well studied. One review of how cancer type is related to adjustment reports that breast cancer patients were more often referred for psychiatric assistance than any other cancer patients (Levine, Silberfarb & Lipowski, 1978). While the knowledge of the unique problems of breast cancer patients is fairly extensive, much less is known about other cancer types. There is some limited evidence, however, that lung cancer patients may also face a unique and perhaps more severe set of adjustment problems.

Weisman and Worden (1976) report that in their longitudinal study of several cancer types, lung cancer patients were found to be the most vulnerable group at every point in the evaluation. Lung cancer patients were also by far the most distressed cancer type group. This study has been reviewed earlier. Weisman (1976) further reports that in his large mixed cancer type group, colon and lung cancer patients most commonly denied they knew their diagnosis. This suggests a different level of awareness for lung cancer patients.

It has also been hypothesized that lung cancer patients may have cognitive appraisals which differ from patients with other cancer types. The majority of studies which have focused on lung cancer patients have followed the work of David Kissen, who developed a controversial theory that lung cancer patients have pre-morbid personality

characteristics which distinguish them from other cancer patients. These include diminished outlets for emotional discharge (see, for example, Kissen, Brown & Kissen, 1968; Abse et al., 1974).

Though Kissen's work on pre-morbid personality factors has not been widely accepted, lung cancer patients are viewed as having unique problems and cognitions. Ryan's (1987) review of some of these includes discussion of the poor prognostic outlook for most lung cancer patients, the rapid course of the disease, the guilt and blame associated with smoking, the added anxiety of respiratory difficulty, and the high incidence of brain metastases. In addition, Ryan notes that, except for leukemia and lymphoma patients, lung cancer patients have the greatest reduction in employment (Barofsky, 1984) and are more socially isolated than other cancer patients (Brown et al., 1986; McGeough et al., 1980). Ryan concludes: "there is no information about the psychological impact of the fact that smoking causes lung cancer. ... no study was found that addressed the impact of this attribution on the patient's emotional status or interpersonal relationships" (Ryan, 1987, p. 226).

Other researchers have asked this question as well. Gotay (1985) ends her study of the causal attributions of breast cancer patients with the comment: "It may be that, for some kinds of cancer, especially those for which a likely aetiologic agent has been identified, the role of

attributions in adjustment is critical. For example, in the case of lung cancer, the contributory role of cigarette smoking to the development of the disease is well documented and well known. Whether or not lung cancer patients attribute the disease to their smoking or not may have a large influence on adjustment; whether such self-blame would have a negative or beneficial effect is still an unanswered question" (Gotay, 1985, p. 830-31).

Finally, there is limited evidence that lung cancer patients present an unusual pattern of emotional recovery as compared to other cancer patients. In their study following 20 lung cancer patients from diagnosis to six months post-diagnosis, Goldberg, Wool, Glicksman and Tull (1984) found that the diagnosis produced an acute increase in depressive symptoms. However, this initial distress decreased over time. This finding parallels that reported by Ryan (1987) who cites Hughes' (1985) research. Hughes found that lung cancer patients who were receiving active treatment reported less depression two to three months post- diagnosis, despite a deteriorating physical condition. McCorkle and Quint-Benoliel (1983) also found that the lung patients they studied reported improved mood and fewer concerns at a one month follow-up. This positive attitude remained at three and six month post-diagnosis follow-ups (Driever & McCorkle, 1984). These findings suggest that lung cancer patients may differ in their

initial response to diagnosis, in their post-diagnosis adaptation, or both.

Since lung cancer patients have been identified as being more distressed or as having a different pattern of distress, and as possibly differing in their attributions than other cancer types, they may provide meaningful information on whether cognitive appraisals and adjustment are related. Also, there are relatively few studies examining the psychosocial consequences of lung cancer, considered apart from other cancer types. Because lung cancer is the leading cause of cancer deaths among men, and has just passed breast cancer to become the leading cancer killer among women, an increased understanding of coping with this disease has the potential to impact many patients.

Further, the well-publicized link between lung cancer and smoking can be expected to influence self-blame and other cognitive appraisals, thus offering an opportunity to compare these as they relate to adjustment.

Summary of Literature Review

Recent research on the psychological implications of cancer has increasingly emphasized the cognitive experiences of patients as critical to understanding how cancer patients cope with their illness. In particular, seven dimensions of cognitive appraisal have emerged as important to consider in cancer research: level of awareness, delay in seeking

treatment, search for meaning, specific causal attributions, blame, personal control and social comparisons.

How these factors are related to adjustment is complicated, however, in that the concept of adjustment is controversial. As the definition of what constitutes healthy adjustment among medical patients is challenged, its measurement becomes more difficult. At present, there are compelling arguments to include instruments which tap emotional /psychological, functional and physical distress.

Finally, two other important factors emerge in studies of appraisals, coping and adjustment among cancer patients: the time period chosen for examination and the type of cancer population to be studied. The period immediately following diagnosis appears to be an important starting point for beginning to understand the cognitive experiences of patients. Similarly, although little is known about how appraisals differ for different cancer types, there is some evidence that lung cancer patients may differ significantly from other cancer patients in their appraisals and subsequent adjustment to their illnesses. Further research is needed to understand more fully the appraisals of lung cancer and other cancer patients and the impact of these appraisals on coping and adjustment.

Statement of Purpose and Hypotheses

In line with the theoretical and experimental findings

reviewed, the present study was a preliminary attempt to examine cognitive appraisals, coping, and adjustment in cancer patients immediately after diagnosis. The specific areas addressed and related predictions are outlined below.

The first purpose of the present study was to provide descriptive data concerning a) the cognitive appraisals of newly diagnosed cancer patients on the dimensions of level of awareness, delay in seeking treatment, search for meaning, specific causal attributions, blame, personal control and social comparisons, and b) the problems experienced by newly diagnosed cancer patients and the coping strategies used to address these problems.

The second major purpose of this study was to compare the cognitive appraisals, problems and coping strategies of newly diagnosed lung cancer patients with those of a mixed cancer group. In this regard, the following hypotheses were tested:

1. It was predicted that lung cancer patients would be at a lower level of awareness and would thus express less knowledge about their illness than would a mixed cancer-type group.

2. It was predicted that lung cancer patients would attribute the cause of their illness more often to themselves and/or to their behavior and less often to chance than would a mixed cancer-type group.

3. It was predicted that lung cancer patients would

have different concerns and report different types of problems secondary to diagnosis than would the mixed cancer-type patients.

Finally, a third major focus of this study concerned the adjustment of newly diagnosed cancer patients. Hypotheses in two areas were made.

1. It was predicted that measures of emotional, physical and functional adjustment would be significantly correlated.

2. It was hypothesized that particular cognitive appraisals would be related to coping and adjustment in the following ways:

a) It was predicted that for newly diagnosed patients, self-blame would be related to better adjustment. Blaming others was predicted to lead to poorer adjustment.

b) It was predicted that many causes attributable to self would be associated with higher self-blame and thus to better adjustment as follows from above.

c) It was predicted that beliefs about personal control would be associated with higher emotional distress. Beliefs about one's physicians' ability to control one's illness was expected to be associated with better adjustment.

Summary of Purpose and Hypotheses

The present study examined the cognitive appraisals,

problems, and coping strategies of newly diagnosed cancer patients. In each of these areas, the experiences of lung cancer patients were contrasted to those of a mixed type cancer patient group. Adjustment was measured for a subgroup of the patients and relationships between selected cognitive appraisals and adjustment were examined.

METHOD

Subjects

To qualify for inclusion in this study, patients had to be hospitalized for their first and only diagnosis and/or treatment of lung, Hodgkin's disease, gastro-intestinal, lymphoma, or malignant melanoma cancer. They had to be aware of their cancer diagnosis, be able to speak English, be able to read English if they were to complete written measures, and be over eighteen years old. Patients with known brain metastasis or with known psychiatric hospitalizations (except for alcoholism) were excluded. Two patients were interviewed in outpatient clinics immediately following their hospitalizations. All other patients were hospitalized at the time of interview.

Patients were drawn from Loyola University Foster McGraw and Hines Veteran's Administration Hospitals. Patients were approached for inclusion as they were identified and thus the sample is a non-random, convenience sample based on patient availability and cooperation. Of the 32 patients approached, six declined to participate (three on the advice or insistence of family members) and

ten were discharged before the interview could be arranged.

Sixteen newly diagnosed cancer patients participated in this study. Subjects were approached within two weeks of diagnosis, except in the case of one subject who participated approximately three weeks post-diagnosis. Eleven patients completed all assessment instruments -- both interview and paper and pencil measures. Patients in this group included: two malignant melanoma, two Hodgkin's disease, two lung cancer, one lymphoma, one gastric, and three colon cancer patients. One other gastric and four other lung cancer patients completed only the interview portion of the study.

Of the sixteen patients who participated, there were seven women and nine men. The average age was 53.8 years old, with the range of 29 to 71 years. Twelve of the patients were married at the time of interview, two were divorced and two patients were widowed. All but one had at least one living child. One patient was black, another was Asian-American; the other fourteen patients were white, including two first generation European immigrants.

At the time of interview, four patients were professionals, four held supervisory or management positions, two patients were laborers, two patients were homemakers, one was a student, and three patients were retired. Five patients were Roman Catholic, five were Protestant, one patient listed "none" for religious

affiliation, and five patients' religions were unknown. Ten patients had been hospitalized for a physical cause prior to this hospitalization and six had not. Four of the six lung cancer patients and two of the ten mixed cancer-type group were patients at Hines Veteran's Hospital. Two lung cancer patients and eight patients in the mixed cancer-type group were patients at Loyola Foster McGraw Hospital.

Interview

Each patient was seen for an individual, semi-structured interview that was designed to assess initial cognitive reactions and specific problems and coping strategies related to diagnosis. Each patient was interviewed by the same female graduate student in clinical psychology. The interview was completed in 30 minutes except in one case where it took 40 minutes to complete. All interviews were audiotaped for later coding.

In the first part of the interview, the interviewer asked a series of seven questions designed to explore the patient's general understanding and initial conceptualization of his or her disease. These questions were borrowed or adapted from the literature to address relevant variables, as indicated below in parentheses.

1. What do you know about your illness? What has your doctor told you about your illness? What has he or she told you about the treatment you are to

receive? (Level of Awareness/Knowledge of Illness; adapted from Moses & Cividali, 1966.)

2. When did you first notice symptoms? When did you first contact your doctor about them? (Delay in Seeking Treatment.)
3. With respect to your health problem, have you ever asked yourself the question "why me?" What have your thoughts been about this question? (Search for Meaning; from Gotay, 1985).
4. What do you feel may have caused your illness? (Specific Attributions).
5. I'd like to know how much you blame each of the following factors for your health problem. Please assign a percentage of blame to each factor, so that the overall assignment of blame equals 100%. If a given factor has no influence, you may assign it a zero. The four factors are: 1) yourself -- the kind of person you are, 2) things you have done, 3) the environment and other people, and 4) chance, luck or fate. (Blame; from Gotay, 1985.)
6. Do you think the course of your illness is something you have some control over? If so, what ideas do you have? Do you think your doctors have some control over the course of your illness? If so, how? (Control; from Taylor, Lichtman & Wood, 1984.)

7. Do you know or have you known others with cancer? If so, what was their (his or her) experience? (Social Comparisons.)

Responses were coded following guidelines established by the authors noted above when available. Coding of the audiotaped interview was done by the interviewer and by another advanced graduate student in psychology. Half the taped interviews were coded by both raters together and the other half were coded separately by each rater. For the latter half, inter-rater reliability was computed by using the number of agreements over the total number of decisions per item. Thus, inter-rater reliability is based on half the subjects. When the separate ratings differed, the two raters discussed the item and reached agreement. Each variable and the specific categories coded for it are listed in Table 1. Inter-rater reliabilities for each variable are also noted.

The remaining portion of the interview consisted of the administration of the Inventory of General Coping Behaviors (COPE) (Weisman & Worden, 1976). COPE is a measure used to identify coping strategies in response to specific problems. Both problems and strategies are generated by the patient in response to the following interview questions:

1. What problems has your illness caused you?
2. What do you do (or did you do) about it (for each

Table 1

Interview Variables, Coding Categories and Inter-rater Reliability

Variable	Categories for Coding			Inter-rater Reliability
Level of Awareness	Minimal	Moderate	Maximal	87.5%
Delay in Seeking Treatment	None	Weeks	Months	87.5%
Search for Meaning/Asked self question "Why me?"	Yes	No		100%
Specific Attributions (for each cause given)	Self	Others or Environment	Chance	85.7%
Control -- Self	None	Some	A lot	62.5%
-- M.D.s	None	Some	A lot	75.0%
Social Comparisons Experience was:	Positive	Negative		93.3%

problem identified)?

COPE was coded from audiotape using a scheme of 29 possible problems and 21 coping behaviors developed by Gotay (Gotay, personal communication, 1987), and was based on the work of Weisman and Worden (1976). These coding systems are listed in Tables 2 and 3. The same raters and rating system was used for problems and coping stategies. Thus, reliability is again based on half of the subjects' responses. Inter-rater reliability for problem type was 91.7%. Reliability for the specific number of the problem within each type within each type was 79.2%. Finally, reliability for both the total number and the specific coping strategies reported was 66.0%.

Self Report Questionnaires

Patients were asked to complete a demographic data sheet which asked for information found to be related to adjustment in the literature. This questionnaire is described below and is included in the Appendix.

Demographic Data Questionnaire. This brief questionnaire asked for the following information: name, age, sex, marital status, race, education level, occupation and work stauts, spouse or partner's name and occupation, number and ages of children, family income, religion, frequency of church attendance, number of family members in the Chicago area, number of people who know about the

Table 2

Problem Types

A. Own Reaction and Relationships with Others

1) General emotions -- self
2) General emotions -- spouse
3) General emotions -- family
4) Reactions of others (especially non-family members)
5) Effect on job

Other problems listed as part of Gotay's (1987) coding system which were not reported by patients in this study:
6) Relationship with mate
7) Dependency on others
8) Effect on spouse's job
9) Effect on family structure
10) Loneliness

B. Effect on Future or Goal Attainment

1) Future of family

Other problems noted by Gotay (1987) which were not reported by patients in this study:
2) Question of having children
3) Guilt re: delay/cause
4) Change in self-image
5) Unfairness of situation

C. Disease, Treatment and Outcome

1) Fear of diagnosis, spread or recurrence
2) Worry re: procedures or treatment
3) Uncertainty or lack of information
4) Restrictions on activities or lifestyle
5) Pain
6) Other symptoms
7) Suffering (potential)
8) Own death
9) Effect of illness on family finances

Other problems in this category observed by Gotay (1987) which patients in this study did not report:
10) Illness -- general
12) Dissatisfaction with medicine

Adapted from Gotay (1987 -- personal communication).

Table 3

Coping Strategies

1) Take firm action based on current understanding
2) Seek more information
3) Talk to oneself, think positively
4) Talk to others, seek social support
5) Try to forget, put it out of mind
6) Find something favorable about the problem
7) Do things to distract self
8) Submit to and accept the inevitable
9) Seek direction from an authority and comply
10) Negotiate feasible alternatives
11) Pray, have faith, hope
12) Do nothing
13) Worry about it when it happens
14) Live for today, make best of today
15) Withdraw socially into isolation
16) Reduce tension -- drugs, alcohol, sex
17) Avoidance/ Denial

Other strategies observed by Gotay (1987) but not reported by patients in this study:

18) Cry
19) Do something, however reckless
20) Blame someone else, disown
21) Blame self

From Gotay (1987 -- personal communication).

diagnosis, and previous hospitalization history (medical and psychiatric). Information about diagnosis was added from the patient's chart.

Three other questionnaires were used to measure adjustment. These measures tapped emotional/affective, functional and physical distress respectively. The instruments are described below:

Symptom Checklist 90 -- Revised (SCL-90-R). (Derogatis, 1977). As a measure of subjective distress and psychiatric symptomatology, each patient completed the SCL-90-R. This inventory lists 90 problems or complaints and asks the patient to rate the degree of discomfort associated with each during the previous week. It yields the following subscores: Somatization, Anxiety, Interpersonal Sensitivity, Phobic Anxiety, Psychoticism, Depression, Obsessive-Compulsiveness, Anger-Hostility, and Paranoid Ideation. Reliability for the SCL-90-R subscales range from .78 to .90. Discriminate, construct and face validity have also been demonstrated (Derogatis, 1977).

Functional Living Index -- Cancer (FLIC). (Schipper, Clinch, McMurray & Levitt, 1984.) To provide a general quality of life index assessing functional distress, each patient completed this 22-item scale. Each item asks about the impact of cancer on areas of the patient's life (for example: spending time with friends, performing household tasks). Patients responded to each item by providing a

rating on a Likert-type scale from one to seven. Construct, face and concurrent validity for the FLIC are well established (Schipper, Clinch, McMurray & Levitt, 1984).

McCorkle and Young Symptom Distress Scale. (Modified version). (McCorkle & Quint-Benoliel, 1983). To assess physical symptom distress, each patient completed this scale of 13 items. Patients responded on a five point Likert-type scale ranging from "no distress" to "extreme distress" for each of the 13 symptoms listed (for example: cough, poor appetite). Alpha reliability is reportedly .82 and the construct validity of the scale has been documented (McCorkle & Quint-Benoliel, 1983).

Procedure

Participants in this study were identified in two ways. Inpatient unit census reports at Loyola Hospital were examined daily and patients whose admitting diagnosis was suspect for possibly revealing a cancer type of interest were noted. At Hines Hospital, a weekly list of newly diagnosed cancer patients currently hospitalized was furnished by the attending physician of the hemotology consult team who routinely evaluated all newly diagnosed patients. Unit charts of potential patients were reviewed to assess their qualifications for inclusion. Exclusion data not recorded in the chart (for example, English language skills, patient being informed of his/her

diagnosis) were gathered from unit nurses and/or physicians.

After identification, the interviewer contacted the patient and introduced the study and its goals. Patients were given a brief letter describing the study and a copy of the consent form which they would have to sign to participate. This initial contact also served to clarify whether the patient was physically able to participate and whether he/she met other inclusion criteria.

The interviewer returned, usually the next day, to answer any questions and to guage interest in participation. Those patients who wanted to participate completed consent forms. When time and the patient's condition permitted, the interviewer scheduled an interview time, usually later that day or the following day. In two cases, arrangements to interview at an outpatient clinic the week of discharge proved more convenient for the patient. Interviews were held in the patient's hospital room except for the outpatient arrangements in which cases interviews were conducted in private rooms. Family members were asked to leave the room and were present in only two cases when the patient requested that his spouse remain.

The interview was conducted following the outline described previously. Patients were informed that they may choose to not answer question and were allowed to speak for as long as they chose. At the end of the interview, the patient was given a packet of questionnaires to complete at

his or her own pace. A stamped, addressed envelope was included to return the completed questionnaires. Most patients returned these within ten days, but two patients took three weeks and one patient returned her forms four weeks after interview. Patients who delayed in returning their questionnaires were contacted by phone as a reminder.

RESULTS

Preliminary Analyses

General demographic data describing the sample were presented in the Method section. However, since several hypotheses of the study involve comparing lung cancer patients to the remaining patients (a mixed cancer-type group), preliminary analyses were conducted to check for demographic differences between these two groups. These analyses are reported in Table 4. The only significant difference observed is that the lung cancer patients in this sample were less well educated than were the mixed cancer-type patients.

Cognitive Appraisals of Newly Diagnosed Patients

Knowledge or Level of Awareness. Taped responses to the first interview question concerning level of awareness were coded into three categories based on both medical knowledge about their cancer and emotional awareness of the potential seriousness of their illness. Seven patients expressed minimal knowledge, four fell in the moderate range, and five patients expressed maximal knowledge or

Table 4

Demographic Information

Variable	Lung Cancer Patients	Non-lung Patients
Age	M = 55.67	M = 52.70
Sex -- Males	4	5
Females	2	5
Education (in total years completed)	M = 11.0	M = 15.8 *
Previous Hospitalizations -- Yes	4	6
-- No	2	4

* $t(9) = 2.60$, $p = .029$.
All other differences, $p > .10$.

awareness of their illness.

Delay. Patients were grouped into three categories of delay in seeking treatment. Six patients reported either that the discovery of their cancer was accidental and not related to obvious symptoms (for example, during a routine exam) or that they sought treatment immediately at the first indication of a problem. Five patients report delays of 1 to 5 weeks between the onset of symptoms and seeking medical treatment. Finally, five patients report delays of a month or more between the onset of symptoms and seeking medical help.

Search for Meaning. Nearly 44% of patients reported having struggled with the question "why me?" concerning their diagnosis (N = 7). Fifty-six percent of patients indicated they had not considered the question since diagnosis (N = 9). Patients were coded as having struggled with the question "why me" if they answered yes to the interview inquiry or if their discussion of the item indicated that they had done so. Inter-rater reliability for this item was 100%.

Specific Attributions. Patients reported between zero and six possible causes for developing their cancers. The mean number of causes generated was 2.1. These causes were coded into those attributable to the patient his or herself, those related to others or identified outside forces, and those related to chance. Self causes had a mean of 1.2 and

a median of one cause, with a range of 0 to 3. Causes attributable to others had a mean of .56 and a median of zero, with a range of 0 to 3. Finally, causes attributable to chance had a mean of .31 and a median of zero. Ten patients reported no chance causes and six patients reported one chance cause.

Blame. Patients were asked to assign percentages of blame for their illness to each of four factors so that overall percent of blame was 100. The four factors were: self -- the kind of person you are, things you have done, others or the environment and chance or luck. The percentage range for blaming self and behaviors was 0 to 100%, with a mean of 43.4% and a median of 42.5%. Patients in this sample blamed others or the environment for between 0 and 60% of their illnesses. The mean percentage for blaming others was 18.4%, with a median of 15%. Finally, patients' mean percent blame of chance or luck was 38.1%. The median was 20.0% with a range of 0 to 100%.

Personal and Physician Control. All patients reported they felt they had at least some control over the future course of their illness. Eleven patients were coded as feeling they had "some" control and five were coded as feeling they had "a lot" of control. Most patients reported that a positive mental attitude and following their physicians' advice would impact their diseases' course. There was less confidence expressed by patients in their

doctors' ability to control their future disease course. Six patients felt there was nothing that the doctors could do, seven felt their physicians had "some" control, and three patients felt their doctors had "a lot" of control over their illnesses' course.

Social Comparisons. No pattern of social comparisons was observed among our newly diagnosed patients. Patients were as likely to cite friends and relatives with poor or tragic experiences of cancer (15 such incidents are noted) as they were to tell the interviewer of people they have known who have had relatively positive experiences with cancer (11 such incidents are reported).

Differences between Lung and Non-Lung Patients. Appraisals of the six lung cancer patients were compared to those of the ten mixed cancer-type patients on each of the preceding cognitive dimensions. For all ratio level appraisal variables, *t*-tests were computed. As was predicted, lung cancer patients reported more self-blame in their percentage attributions (M = 67.3, SD = 23.8) than did mixed cancer-type patients (M = 29.0, SD = 34.1), $t(14)$ = 2.41, p = .030. In addition, lung patients were less likely to blame chance (M = 7.5, SD = 7.6) than were non-lung patients (M = 56.5, SD = 41.1), $t(14)$ = 2.85, p = .004. Finally, on the open-ended report of attributions, lung patients reported significantly fewer causes attributable to chance (M = 0.0, SD = 0.0) than did non-lung patients (M =

0.50, SD = 0.53), t(14) = 2.29, p = .015).

Cross-tabs were computed for nominal level appraisal variables. These analyses revealed a trend suggesting another difference between the appraisals of lung cancer patients and those of non-lung patients. Lung cancer patients were classified as minimumly or moderately aware of their illness more often than were non-lung patients, Fisher's Exact Test (N = 16), p = .058. This trend supports our prediction that lung cancer patients would be at a lower level of awareness and would thus express less knowledge about their illness and its significance than would other cancer patients.

Problems and Coping Strategies of Newly Diagnosed Patients

Problems and Strategies. Patients' responses to open-ended questions about problems associated with or caused by their diagnoses of cancer, and the coping strategies used to address these problems, were classified according to the coding system previously outlined in Tables 2 and 3. Patients reported between one and four problems (mean and median = 3.0) and between two and twelve total coping strategies for all problems reported (mean = 5.8 and median = 5.5). The average number of strategies reported per problem was 1.70. The problems and strategies reported by the 16 patients in this study are presented in Tables 5 and 6. As can be seen, the most problems reported fell in

Table 5

Problems Reported by Patients

Problem Type or Category	Percentage of Total Problems Reported	
	"Biggest Problem"	All Problems
Category C Disease, treatment and outcome	56%	61%
Specific problems reported:		
Fear of own death	19%	16%
Uncertainty	13%	10%
Restrictions of activities	6%	12%
Fear of diagnosis or spread	6%	4%
Potential suffering	6%	4%
Immediate effect on family finances	6%	4%
Pain and other symptoms	0%	6%
Worry about procedures	0%	4%
Category B Effect on future	25%	16%
Only problem reported:		
Future of family	25%	16%
Category A Reactions of or relationships with others	19%	22%
Specific problems reported:		
Job (keeping it, advancement)	6%	8%
Spouse's reaction	6%	6%
Family's reaction	6%	4%
Others' reactions	0%	4%

Table 6

Strategies Reported by Patients

	Problem Category (and number reporting)			
	A (11)	B (8)	C (30)	Total (49)
Take firm action ...	1	1	7	9
Seek more information	2	1	2	5
Talk to self, think positive	2	2	3	7
Talk to others/social support	4	3	5	12
Try to forget ...	0	0	1	1
Find something favorable ...	0	2	10	12
Do things to distract self	1	1	5	7
Submit/ accept the inevitable	2	0	7	9
Seek direction from authority	0	0	5	5
Negotiate alternatives	1	0	2	3
Pray, have faith, hope	1	0	1	2
Do nothing	1	0	0	1
Worry when it happens	0	1	4	5
Live for/ make best of today	0	0	7	7
Withdraw socially / isolation	1	1	0	2
Reduce tension ...	0	0	2	2
Avoidance/ Denial	3	1	0	4
Total	19	13	61	93

category C (61%), the disease-related problems. Concerns about others' reactions to the diagnosis accounted for 22% of all problems.

Differences between Lung and Non-lung Patients. A *t*-test found no difference in the total number of problems reported by lung cancer patients (*M* = 3.0, *SD* = 0.63) as compared to non-lung patients (*M* = 3.1, *SD* = 0.88), *t* = .24, *p* > .10. Similarly, a *t*-test revealed no significant difference in the number of strategies reported for the two groups (lung patients, *M* = 6.3, *SD* = 1.5, non-lung patients, *M* = 5.5, *SD* = 2.6), *t* = .71, *p* > .10. Descriptive analyses of the types of problems and strategies reported by the two groups are given in Table 7.

Adjustment of Newly Diagnosed Patients

Because four of the patients in this study did not return their self-report questionnaires, there were only twelve patients for whom any adjustment data were available. In addition, one of these patients returned a partial packet, leaving only eleven complete protocols. Cancer-type was, however, well distributed in this group, as there were two lung, two Hodgkin's Disease, two malignant melanoma, one lymphoma, one gastric and three colon cancer patients in this group. Because of the small numbers, no analyses of adjustment differences between lung and non-lung patients can be made. However, some preliminary, exploratory

Table 7

Lung Patients Compared to Non-Lung Patients

Problems Reported by Patients

Biggest Problem Category	Lung Patients	Non-Lung Patients
C -- Disease, Treatment ...	50%	60%
B -- Effect on Future	33%	20%
A -- Own Reaction & Others	17%	20%

All Problems -- Category	Lung Patients	Non-Lung Patients
C -- Disease, Treatment ...	61%	61%
B -- Effect on Future	11%	19%
A -- Own Reaction & Others	28%	19%

Percentage of Total Strategies Reported by Patients

	Lung Patients	Non-Lung Patients
Take firm action ...	13%	7%
Seek more information	5	6
Talk to self, think positive	5	9
Talk to others, social support	11	15
Try to forget ...	0	2
Find something favorable ...	8	16
Do things to distract self	5	9
Submit/ accept the inevitable	13	7
Seek direction from authority	13	0
Negotiate alternatives	3	4
Pray, have faith, hope	3	2
Do nothing	0	2
Worry when it happens	3	7
Live for/ make best of today	5	9
Withdraw socially / isolation	3	2
Reduce tension ...	5	0
Avoidance/ Denial	5	4

analyses of the relationships among the three adjustment measures and the relationship of appraisals to adjustment were conducted.

Description. The overall means plus the range of scores for each adjustment measure are presented in Table 8. As predicted, correlational analyses suggest that the three adjustment measures used in this study were significantly related. These analyses are given in Table 9.

Relationship of Appraisals to Adjustment. To examine the relationship between self blame and adjustment, patients were divided into two groups on the basis of self-blame percentages. Patients high in self-blame (N = 4 for two adjustment measures, and N = 5 for the third) attributed at least 50% of blame to themselves or their behaviors. Patients low in self-blame (N = 7) attributed less than 50% blame to themselves and their behaviors. A series of t-tests were computed for the two groups on each of the three measures of adjustment.

On the Symptom Distress Scale, assessing physical adjustment, patients high in self-blame scored as significantly more distressed (M = 2.49, SD = 0.46) than did patients low in self-blame (M = 1.77, SD = 0.48), $t(10)$ = 2.59, p = .027. On the Functional Living Index -- Cancer, assessing functional adjustment, a trend in the same direction was observed, $t(9)$ = 1.96, p = .081. Patients high in self-blame scored as more distressed (M =5.49, SD =

Table 8

Level of Distress

Measure	Mean	Range
FLIC (Functional) 1 to 7 Likert scale 7 = highest adjustment Score is per item	5.169	3.864 - 7.000
SCL-90 (Emotional/Psych) 0 to 4 Likert scale 4 = poorest adjustment Score is per item	.460	.044 - 1.156
Selected subscale scores:		
Depression	.721	.000 - 1.231
Somatization	.613	.083 - 1.333
Anxiety	.573	.000 - 2.200
SYM DIS (Physical) 1 to 5 Likert scale 5 = poorest adjustment Score is per item	2.071	1.308 - 3.077

Also: 6 of 12 patients reported extreme scores (4 or 5) on at least one item.

Table 9

Adjustment Measure Correlations

Measure	Type of Adjustment Assessed
FLIC. The Functional Living Index -- Cancer. (High Score = Good Adjustment)	Functional
SCL-90 is the Symptom Checklist 90 -- Revised. (High Score = Poor Adjustment)	Emotional/Psychological
SYM DIS is the Symptom Distress Scale. (High Score = Poor Adjustment)	Physical

	FLIC	SCL-90	SYM DIS
FLIC	1.000	-.632 p = .019	-.566 p = .035
SCL-90	-.622 p = .019	1.000	.521 p = .050
SYM DIS	-.566 p = .035	.521 p = .050	1.000

0.75) than did patients low in self-blame (M = 4.61, SD = 0.62). Finally, on the SCL-90-R, assessing emotional/ psychological functioning, scores were not significantly different, though they were in the same direction. Patients high in self-blame averaged .621 (SD = 0.15), while patients low in self-blame averaged .369 (SD = 0.39), $t(9) = 1.21$, $p = .256$. Overall, these findings that high self-blame is related to more distress are contrary to our hypothesis that self-blame initially increases a sense of control and thus leads to more positive adjustment.

Patients were also divided into two groups on the basis of the percentage of blame they ascribed to others and the environment. Patients high in blaming others (N = 3 for two adjustment measures, and N = 4 for the third) attributed more than 20% of blame to others or the environment. Patients low in blaming others (N = 8) attributed less than 20% to this factor. The t-tests computed to assess differences between groups on the basis of blaming others revealed no significant differences in adjustment. This also fails to support the hypothesis concerning the relationship between blame and adjustment.

A related hypothesis concerns the relationship of causal attributions to adjustment. It was predicted that patients with many causes for their disease which were attributable to self would differ in their adjustment from patients without such self causes. Patients were grouped as

high in self causes if, in response to an open-ended question, they had reported at least one such cause (N = 7). Patients were grouped as low in self causes if they had reported no cause attributable to self (N = 4). A t-test analysis of this hypothesis revealed no significant differences on any of the adjustment measures based on self cause grouping.

Causes and adjustment were related, however, in that t-test analysis revealed that patients who report at least one chance cause (N = 5) differed in functional adjustment from those who reported no chance causes (N = 6). Patients with one chance cause scored as more functionally adjusted on the FLIC (M = 5.69, SD = 0.81) than patients without a chance cause (M = 4.73, SD = 0.52), t(9) = 2.40, p = .040.

A final hypothesis relating appraisals and adjustment concerned beliefs about personal control and about the ability of one's physicians to control the future course of one's illness. Patients were divided into two groups: those who felt they had some personal control over their illness (N = 7), and those who felt they had a great deal of personal control (N = 4). The t-test analyses revealed no significant differences on any adjustment measure based on this division. Futher, patients were also divided between those who felt their doctors had no control over their illness course (N = 5) and those who felt their doctors had some or a lot of control (N = 6). The t-tests again

revealed no significant differences in adjustment. These findings are contrary to our predictions concerning this appraisal and adjustment in that beliefs about control were not related to adjustment.

Summary of Results

Descriptive information about the cognitive appraisals of the newly diagnosed patients studied suggest that patients do differ on the dimensions examined. Patients were approximately evenly divided among the possible categories on level of knowledge, delay in seeking treatment, search for meaning, social comparisons and feeling that their physicians had control over the future course of their illnesses.

On the variable of specific attributions (which were generated spontaneously) patients tended to give more self causes then causes attributable to others or chance. Patients also reported feeling more personal control over the future course of their illness, with all patients reporting at least some feeling of control. Another interesting attribution finding was observed in patients' responses to a forced-choice attribution of blame task where the largest percentage was assigned to the "self or behaviors" category.

Lung cancer patients differed form the mixed cancer-type patients in attributions. Lung patients reported more

self-blame and blamed chance less on both attribution tasks. There was also a trend for lung cancer patients to be coded as less aware of their illness than non-lung patients.

The problems and coping strategies of the patients studied again suggest a diversity of experiences for newly diagnosed cancer patients. Disease-related problems predominated, with the next largest category of problems being the response of others. Lung cancer patients appear to have concerns similar to those of the mixed cancer-type group, though there may be some slight differences in the coping strategies employed by the two groups.

Finally, analysis of the adjustment measures used in this study suggest that functional, physical and emotional/psychological adjustment are related, but unique aspects of a patient's experience. In addition, there appears to be a relationship between higher levels of self-blame and poorer adjustment. Also, patients who generated at least one cause attributable to chance appeared to be more functionally adjusted than patients without a chance causal attribution.

DISCUSSION

The findings of this study will be discussed within three major areas. First, cognitive appraisals of the newly diagnosed patients studied will be examined, and differences in appraisals between the lung and non-lung cancer groups will be discussed. Secondly, the problems and coping strategies of patients will be explored, with special attention to how lung cancer patients differ from non-lung patients. Finally, adjustment as measured in this study will be described, and the predicted relationships between selected appraisals and adjustment will be evaluated.

Cognitive Appraisals

Level of Awareness. Patients in this study were fairly evenly distributed on this appraisal dimension. As described by Moses and Civaldi (1966), level of awareness has both a intellectual and emotional component. In both regards, patients differed dramatically in how they responded to the interview question about their knowledge of their illness. One patient with minimal awareness referred to his illness as "an infection" for which he would have to

"take something." In contrast to this response was that of a Hodgkin's Disease patient coded maximally aware. This patient spent five minutes describing theories of the disease's etiology and the systems involved in her case, and then quoted survival rates with a great deal of emotion. Patients in the moderate knowledge category expressed either an understanding of the medical details of their illness and its treatment, or an emotional understanding of the potentially life-threatening nature of their disease. Thus, it appears that level of awareness varies markedly among newly diagnosed cancer patients and may be an important variable to consider further in understanding the cognitions and emotions of these patients.

Weisman and Worden (1976) report that approximately 10% of their newly diagnosed patients professed no knowledge of their diagnosis, despite having been informed of it. There were no such patients in our study, in part because professed knowledge of diagnosis was an inclusion criterion. However, it is interesting to note that 44% of our patients fell within the minimally aware category. These findings suggest that many patients choose not to become fully informed about their illness, at least in the initial diagnostic period.

Individual interview responses also suggest that level of awareness is a very important aspect of the appraisal process for newly diagnosed patients. Many patients in this

study felt strongly that they must determine for themselves how much information they received and when this information could best be used. Patients said they felt their physicians should be open to their questions and should answer honestly and completely. However, the majority of patients also said that they themselves wanted to set the schedule for this exchange. Several patients coded as minimally and moderately aware said: "I know all I want to know right now." One patient coded as maximally aware reported: "I wish I hadn't read up so much on this thing before we really knew [my staging]. I worried about a lot of things I didn't need to worry about. But that's just the kind of person I am... I want to know all the possibilities right from the start." The responses of patients concerning the variable of level of awareness suggest that patients want to have accurate information about their illness, but they want such information on a timetable of their own choosing. The pacing of providing medical information and information about prognosis and course may be best left to the newly diagnosed patient. Further research investigating the information-giving process is needed to examine this area.

Delay in Seeking Treatment. Exploration of the cognitive variable of delay in seeking medical treatment following the identification of symptoms raised an important distinction in this study. As discussed in the literature

(Weisman, 1976; Worden & Weisman, 1975; Levine & Zigler, 1975), delay has been associated with denial of symptoms. Denying one's symptoms has in turn been identified with poorer prognosis in that patients seek medical attention later in the disease process. However, in our study, the self-report of delay is complicated by this link to denial.

Subjectively, patients in our study had no difficulty in reporting their delay in seeking treatment. For the purposes of this study, these subjective reports were used to code delay. However, following further inquiry in the interview, objective analysis of when patients actually began to have symptoms was often not in agreement with patients' initial subjective report. If patients deny their symptoms in an effort to cope with suspected illness, then this denial apparently may carry over to post-diagnostic interviews. However, to "objectively" judge that a patient was practicing denial in not seeking treatment, for example with a chronic cough, also appears to be a flawed methodology for assessing delay. Thus, the cognitive appraisal variable of delay in seeking treatment as it is used in the literature, appears to be difficult to measure. Since the patient's subjective experience is of utmost importance in his or her cognitive appraisals, this response was recorded in this study. An estimate of denial, however, cannot be assumed to follow from such a subjective analysis.

Search for Meaning. As was suggested by Gotay (1985) and Taylor (1983), it appears that attributional search for meaning in the experience of cancer diagnosis is common, but by no means universal, among newly diagnosed patients. Our observation that 44% of our patients had struggled with the question "why me?" appears to challenge Taylor, Lichtman and Wood's (1984) finding that this question was important only to 29% of their breast cancer patients recalling their diagnoses. However, the authors' retrospective design might have underestimated the importance of the search for meaning in newly diagnosed patients by suggesting it becomes more important to patients later in the disease process. Gotay's (1985) study which is not retrospective, shows little difference between early (usually recently diagnosed) and advanced stage patients on attributional search. In this study, the intensely emotional responses elicited by this interview question clearly demonstrated the need for many of our patients to come up with some explanation for their plight early in their diagnostic period.

Specific Attributions. Patients in this study had little difficulty in generating possible causes for their illnesses. Most patients readily advanced theories which were often quite complex. Only one patient was unable to generate any possible cause in response to our open-ended question. In contrast to Linn, Linn and Stein's (1982) finding that late-stage cancer patients have less firm

beliefs about the etiology of cancer than non-cancer patients, our results suggest that patients at diagnosis have definite causal theories about their cancer's etiology.

Unlike previous work examining the causes generated by cancer patients (Gotay, 1985; Taylor, 1983), in our study causes were grouped according to objective attribution to self, other or identified outside forces, and chance. Self causes were most often cited, with causes attributable to others or outside factors being next most common. Finally, a single chance cause was reported by six patients, with the other ten generating no chance causes. As was observed in other studies, patients in this study offered a wide variety of possible reasons for developing cancer. However, grouping these reveals that most patients focused primarily on things they had done or on the type of person they were in coming up with explanations for their illnesses.

Blame. Patients' responses to a forced choice task in which they had to assign 100% blame in some combination to four factors, suggest that self-blame is not a universal attribution of newly diagnosed cancer patients. Taylor, Lichtman and Wood (1984) found that 59% of their breast cancer patients did not assign themselves blame in a similar forced-choice paradigm. Moses and Cividali (1966) report that only 8 of their 30 cancer patients clearly blamed themselves for their illness. In the current study, six of the sixteen patients assigned zero percent blame to

themselves (the kind of person you are), and five of the sixteen assigned zero percent blame to their behaviors. However, twelve patients (75%) did assign themselves or their behaviors some blame. Further, eight of these said they were at least 50% responsible for their cancer.

Thus, it appears that patients do not universally assume blame for their cancer. However, 75% of the patients in this study did see themselves as somewhat responsible for their illness. Further, for these patients, self-blame is a major attribution. The tendency in our sample for more patients to ascribe blame to themselves as compared to other studies, may be related to one or more characteristics of our sample. This inconsistency may be an artifact of our small sample size. It may be related to the relatively large proportion of lung cancer patients studied. Or our finding of more self-blame may be related to our examination of patients who were newly diagnosed. Further research is needed to examine which, if any, of these factors may contribute to higher self-blame in this study.

Personal and Physician Control. On the basis of responses coded to an open-ended question about perceived control, all patients in this study felt they had at least some control over their illness course. The most commonly reported factor in this sense of personal control was a positive attitude. Patients also reported that they felt they could follow their doctors' advice and thus influence

the course of their disease for the better. These findings challenge Gottesman and Lewis' (1982) study in which newly diagnosed cancer patients scored high in helplessness. While 69% of our patients were coded in the moderate range, expressing beliefs of "some" control, 31% of our newly diagnosed patients expressed beliefs that they had a great deal of control over how their disease would progress. Clearly, our group did not express the helplessness observed by Gottesman and Lewis.

Beliefs about their physicians' ability to impact their disease course were less positive in our sample. Thirty-eight percent of our patients felt there was nothing their doctors' could do to control their illness. Only 20% of patients reported beliefs that their physicians had a great deal of control. Despite these figures, few patients expressed a lack of confidence in their physicians' abilities or motives. Rather, most patients felt that their doctors were providing, and would continue to provide, the best of care. Many patients simply felt that whether they got well or not was up to them or, in some cases, was "in God's hands."

Social Comparisons. The question designed to elicit social comparisons among patients in our study appears not to have been successful in doing so. For many patients, the request to discuss the experiences of others with cancer who the patient knew or knows did not appear to invite

comparisons to their own experience. Rather, references beginning with "it could be worse" tended to emerge at other points in the interview, especially when asking for coping strategies. In this study, social comparisons were conceptualized as a dimension of cognitive appraisal. However, it appears the use of social comparisons was more often a coping strategy employed by some patients. In this latter sense, Taylor's (1983) finding that her breast cancer patients tended to compare themselves with persons worse off than they, appeared to be supported in this study. However, this support does not come out of the data generated by the specific interview question designed for this purpose.

Differences between Lung and Non-Lung Patients. The major differences observed between the cognitive appraisals of lung cancer patients as compared to non-lung patients were in level of awareness and causal attributions. A trend for lung cancer patients to be at a lower level of awareness was observed. This finding supports Weisman' (1976) observation that patients with different cancer types report different knowledge levels. In particular, Weisman and Worden (1976) report that of a large mixed cancer-type group, colon and lung cancer patients most commonly denied their diagnoses. This observation led to the hypothesis that lung cancer patients would express less knowledge about their illness and its significance. This hypothesis is thus

supported by the findings of this study. Whether or not this more limited awareness is suggestive of denial, as has been posited by Moses and Cividali (1966) and Weisman (1976), cannot be addressed by the data collected in this study.

Another area in which the appraisals of the lung cancer patients studied differ from those of the mixed cancer-type group examined in this study is in causal attributions. As was predicted, lung cancer patients reported more self-blame and less blame of chance in their percentage attributions than did non-lung patients. Consistent with this pattern, lung patients in this study also reported fewer causes attributable to chance than did non-lung patients. These findings support arguments made by Ryan (1987), Gotay (1985) and others who supposed that smoking's causative relationship to lung cancer would increase self-blame. It appears from this study that lung cancer patients may appraise their illness in terms of causes attributable to their smoking and other behaviors and to the kind of person they are, and may view chance or luck as relatively unimportant in understanding the etiology of their illness. Further research is needed to explore these findings and to understand how greater self-blame influences coping and adjustment among newly diagnosed cancer patients.

Problems and Coping Strategies

The problems of the newly diagnosed cancer patients in this study parallel those reported by Gotay (1985). Problems related to the disease itself, its treatment and prognosis predominated the list of concerns generated by our sample. Sixty-one percent of the problems reported fell within this category. Analysis of the problems raised by diagnosis which patients identified as being most troublesome also highlight disease-related concerns. In addition, concerns about the reactions of self and others comprised 22% of all problems reported. Finally, the diagnosis' effect on the future of the patient's family made up 16% of all problems reported by patients in this study.

These findings also appear to support the observations of Worden and Weisman (1976) who found that existential concerns dominated the thoughts of newly diagnosed patients. Fear of one's own death and fear for the future of one's family accounted for 32% of the total problems generated by patients in our study. Despite a difference in interview methodology (Worden and Weisman used long, in-depth interviews which may have better allowed patients to share existential fears), the present study offers support that existential concerns are very salient for newly diagnosed cancer patients.

Consistent with Lazarus' model of coping (Folkman, Schaeffer & Lazarus, 1979; Lazarus, 1985), the strategies of

the newly diagnosed cancer patients in this study appear to be problem-specific. That is, many of the strategies reported by patients were used specifically for a given problem type and not for other problems. Given seventeen possible strategies and three problem types, no meaningful statistical analyses could be applied to the reponses of so few patients. However, it appears that some types of strategies which may group together conceptually may be more readily applied to certain problems than other strategies. For example, passive acceptance strategies such as submitting to and accepting the inevitable, and seeking direction and complying with authority, appear to be most often applied to disease related problems. Avoidant strategies such as denial, avoiding the subject, doing nothing, and withdrawing socially appear to be applied to concerns about the reactions of others. The data avaiable in this study cannot determine whether observed patterns like these are in fact significant, however they do suggest that this area may be worthy of attention in future research.

Differences between Lung and Non-lung Patients. Lung cancer patients and non-lung patients did not differ in the total number of problems or strategies they reported. Nor were there any apparent differences in the types of problems faced by lung as opposed to non-lung patients. These findings do not support our hypothesis that lung patients

would report different concerns than the mixed cancer-type group. In particular, Ryan (1987) has noted the poorer prognosis and more respiratory distress of lung cancer patients. Barofsky (1984) reports more interference in employment for lung cancer patients. Brown, et. al (1986) lists social isolation as more problematic for lung patients. Despite these other findings, lung cancer patients in our study did not differ significantly in the problems they reported.

However, the strategies of lung cancer patients as compared to the mixed cancer-type group suggests possible differences in how the two groups choose to cope with their similar problems. Though statistical analyses are not appropriate given the small number of patients in each group, it appears that lung cancer patients tend to use the strategy of seeking direction from an authority and complying more often, and the strategy of finding something favorable about the situation less often than non-lung patients. These preliminary observations suggest that research focusing on the coping strategies of lung cancer patients as compared to patients with other cancer types is needed.

Adjustment

Given that complete adjustment data was available for only eleven patients, all findings in this area must be

considered exploratory.

Description. The three measures of adjustment used in this study were chosen to evaluate physical, functional and emotional/ psychological distress among our participants. Consistent with other findings (Taylor, 1983; Cella, 1985), most patients in our study did not report clinically significant levels of distress on the emotional/ psychological measure, the SCL-90-R. The most often endorsed symptoms on this scale were those associated with depression, somatization and anxiety.

Correlational analysis conducted for patients' scores on the three adjustment measures confirm our hypothesis that physical, functional and emotional/ psychological adjustment would be significantly related. The strongest relationship is between the functional measure (FLIC) and the emotional/ psychological measure (SCL-90-R). However, one score accounts for only 40% of the variance of the other score, suggesting the measures may be tapping different aspects of adjustment. The three measures used in this study, therefore, appear to be assessing distinct, but related aspects of a patient's overall adjustment to his or her diagnosis. The correlational relationships observed among these measures suggests that future researchers include the assessment of emotional/ psychological adjustment, the assessment of functional adjustment, and the assessment of physical/ somatic adjustment in determining outcome.

Relationship of Appraisals to Adjustment. Three hypotheses relating appraisals to adjustment were examined in this study. The first of these concerns self-blame. Following the model of Bulman and Wortman (1977) outlined earlier, it was predicted that self-blame for a diagnosis of cancer would contribute to feelings of personal control and to a sense that the experience followed logically from one's behaviors. These feelings of increased control and consistency were predicted to lead to good adjustment. In this study, however, greater self-blame was associated with poorer adjustment. Patients who made higher percentage attributions to themselves and their behaviors were significantly more distressed on the physical adjustment measure. Further, there was also a trend for these patients to be more distressed on the functional adjustment measure as well. These findings are contrary to our predictions. Instead, they support the model proposed by Abrams and Finesinger (1953) which states that self-blame leads to guilt and thus to poorer adjustment.

A related hypothesis of this study which also came out of the work of Bulman and Wortman (1977) was that blaming others would result in poorer adjustment. Bard and Dyk (1956) report that many of the spontaneous remarks of cancer patients were blaming of others. Moses and Cividali (1966) note that two-thirds of their patients blamed others or outside forces for their cancer. In our study, most

patients did not identify others or outside forces as the main source of their illness. However, comparing those patients who were high in blaming others to those who were low in blaming others, there were no significant differences in adjustment. Thus, blaming others was not related to adjustment in this study.

A second major hypothesis relating appraisals to adjustment concerns causal attributions. These causes were reported in response to an open-ended interview question. It was predicted that patients with many causes attributable to self would also experience more self-blame and, following Bulman and Wortman (1977) would thus be better adjusted. Contrary to this hypothesis, no significant differences were found on the basis of self cause groupings. Also, patients who reported at least one chance cause for their illness were found to be more functionally adjusted than patients who did not give a chance cause. This finding also challenges our hypothesis. Instead, it is consistent with the finding mentioned above, also suggesting that blaming oneself, rather than chance, leads to poorer adjustment.

A final hypothesis relating appraisals and adjustment concerns beliefs about personal control. Taylor, Lichtman and Wood's (1984) theory that beliefs about personal control lead to better adjustment was dismissed in favor of Averill's (1973) theory that beliefs in personal control

lead to distress in the short term. Therefore, it was predicted that beliefs in personal control would lead to poorer adjustment. Neither of these theories was supported in this study, however, as belief in personal control was not associated with adjustment. A related hypothesis that belief in one's physicians' ability to control the course of one's illness would lead to good adjustment, was also not supported. No relationship between belief in one's physicians' control and adjustment were found.

Limitations of This Study

There are three major limitations of this study. The first and most important is the small sample size used. The second major limitation is that adjustment data were not avaiable for all subjects, prohibiting some analyses comparing lung patients to non-lung patients. Finally, the lung cancer patient group differed from the non-lung patient group on the demographic variable of education.

Small Sample Size. Patients were recruited for this study at two associated hosptials over a four month period. Prior to and during this time, there were numerous logistical problems in identifying, contacting and actually interviewing patients. Lung cancer patients were particularly difficult to accrue because they were often under the care of physicians other than oncologists during the diagnostic work-up period. The major problem in

identifying patients was the time window in which the contact had to occur. It was very difficult to find hospitalized patients who had been diagnosed within the previous two weeks. For many cancer types, initial and confirmatory diagnostic procedures were performed at outpatient clinics, rather than in the inpatient hospital itself.

Despite these difficulties, patients who were contacted and invited to participate usually agreed to do so. Of the 32 patients approached, only six (19%) declined. One of these patients reported that he did not feel physically able to participate in the study. Two other patients felt unable to participate because of their emotional states. One woman said: "It's just too soon for me. I haven't been able to make any sense out of this yet." Three other patients declined to participate at the urging of family members who felt the study would be "too much" for the patient. Of these, two were visited by the interviewer after they had decided against participation. Both of these patients echoed the comments of many of those who did participate in that they wished they had been involved so that "something good could come out of all this."

Of the twenty-six other patients approached, ten were discharged from the hospital before an interview could be arranged. The delay in identifying patients once they were admitted to the hospital, coupled with short hospital stays,

made contacting patients in time to be interviewed very difficult. Future researchers may find outpatient clinics more useful than inpatient services in identifying newly diagnosed patients and arranging for interviews.

Given these logistical problems, the number of patients who were interviewed is very small. Thus, all findings of this study must be viewed as exploratory, and as serving to generate hypotheses for further research.

Self-report Measures Return Rate. The self-report measures which patients filled in and mailed back were completed by only 69% of the patients interviewed. Follow-up phone contact with patients to remind them to return their questionnaires suggested this low return rate was related to the length of the questionnaire packet and also to the nature of the patient's experience at home after discharge. Concerning this latter problem, one patient moved to another part of the country, and two others reported they were "entertaining" out of town guests who were staying with them during their convalescence. Future researchers may find it preferable to collect demographic data and administer shorter adjustment measures immediately following the interview.

A related problem was the inconsistent time period between the interview and the completion of the patient's adjustment measures. Though this delay was about ten days for most patients, one patient took four weeks to return her

forms. Given these limitations of the adjustment data collected in this study, outcome findings and the relationships of appraisals to adjustment are tentative. Further research is needed to explore the relationships identified in this pilot work.

Educational Differences. As has been discussed, the finding of a significant difference in education level between the lung cancer and the mixed cancer-type groups must be kept in mind when examining inter-group differences. The potential impact of education level on appraisal, coping, and adjustment for cancer patients has not been explored in the literature. Thus, its influence on the results of this study are unknown. Care should be taken in future research to try to include a range of education levels among cancer patients in order to examine this variable.

Key Findings and Directions for Further Research

Among the findings of this study, those that offer the most potential for understanding how cancer patients cope with their diagnoses involve cognitive appraisals and adjustment. In particular, appraisals related to causal attributions appear to offer important clues as to which patients may be at risk for poor adjustment. This study has described the appraisals of a small group of newly diagnosed cancer patients, and has identified self-blame as being

associated with higher levels of physical and functional distress. Further, the study suggests that lung cancer patients many ascribe more blame to themselves and their behaviors in evaluating the causes of their illnesses. Thus, it appears from this study that lung cancer patients may be at higher risk for physical and functional distress immediately following diagnosis than are other cancer patients. Further research examining the experiences of newly diagnosed lung cancer patients is needed to evaluate these hypotheses.

In focusing on the experiences of lung cancer patients, however, longitudinal research appears vital. There are several theoretical indications that appraisals at diagnosis may lead to one pattern of adjustment in the short run, but may result in a different adjustment pattern over time. How initial appraisals, including attributions of self-blame, relate to coping with treatment protocals, relapse, and to long term adjustment are important questions which can only be addressed by longitudinal designs.

Another implication of this study for future research concerns the selection of an outcome or adjustment measure. Researchers must be careful to consider physical, functional and emotional/ psychological adjustment as related, but distinct aspects of outcome. This is especially important given that previous research has shown, and this study supports, that most cancer patients do not score as

clinically distressed on standard psychiatric measures. The need to expand our definiition of successful adjustment to include physical and functional well-being is supported by this exploratory study.

A final implication for further research suggested by this study concerns the possible relationship between appraisals, coping strategies and adjustment. The limited sample size of this study prohibits any examination of how these three aspects of the coping process are related in the newly diagnosed patients described. However, future research has the potential to explore patterns among these factors which can eventually lead to the identification of patients at risk and to the development of intervention programs to better assist patients in coping with a diagnosis of cancer.

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APPENDIX

CODE:_____

DEMOGRAPHIC DATA

The following information will aid in helping us to understand your background and how it might relate to your current situation. As with all information in this study, the data you provide below will be treated as confidential.

YOUR NAME_____ AGE _____ SEX _____

MARITAL STATUS (Check one):
_____ Married
_____ Never married
_____ Divorced
_____ Widowed

If married, how long have you been married? _____

Is this your first marriage? ____Yes ____No (This is my _____marriage

NAME OF SPOUSE OR PARTNER _____

NUMBER OF CHILDREN _____ AGES OF CHILDREN _____

RACE (Check one):
_____ White
_____ Black
_____ Hispanic
_____ Asian American
_____ Native American
_____ Other: _____

OCCUPATION _____

WORK STATUS (Check one):
_____ Presently employed
_____ Presently unemployed
_____ Retired

SPOUSE OR PARTNER OCCUPATION _____

STATUS:
_____ Presently employed
_____ Presently unemployed
_____ Retired

FAMILY INCOME (Check one):
_____ less then $10,000
_____ 10,001 to 20,000
_____ 20,001 to 40,000
_____ 40,001 to 80,000
_____ above 80,001

EDUCATION (Indicate the highest grade completed or the highest degree earned): _____

RELIGIOUS AFFILIATION (if any):_____

AVERAGE CHURCH ATTENDENCE PER MONTH: _____

HOW MANY MEMBERS OF YOUR IMMEDIATE FAMILY LIVE IN THE CHICAGO AREA? _____

HOW MANY MEMBERS OF YOUR FAMILY OR FRIENDS KNOW ABOUT YOUR DIAGNOSIS?

Number in family _____

Number of friends _____

HAVE YOU EVER BEEN HOSPITALIZED BEFORE FOR A MAJOR PHYSICAL ILLNESS? ____Yes ____No

If yes, when did this occur? _____

If yes, what was the illness?_____

HAVE YOU EVER BEEN HOSPITALIZED FOR A PSYCHIATRIC ILLNESS (DEPRESSION, NERVOUS BREAKDOWN, ETC.)? ____Yes _____ No

If yes, when did this occur? _____

SCL—90—R

SIDE 1

INSTRUCTIONS:

Below is a list of problems and complaints that people sometimes have. Please read each one carefully. After you have done so, please fill in one of the numbered circles to the right that best describes HOW MUCH DISCOMFORT THAT PROBLEM HAS CAUSED YOU DURING THE PAST WEEK INCLUDING TODAY. Mark only one numbered circle for each problem and do not skip any items. If you change your mind, erase your first mark carefully. Read the example below before beginning, and if you have any questions please ask the technician.

SEX

MALE ○

FEMALE ○

NAME

LOCATION

EDUCATION

MARITAL STATUS MAR ___SEP ___DIV ___WID ___SING ___

DATE			ID. NUMBER	AGE
MO	DAY	YEAR		

VISIT NUMBER: _____

EXAMPLE HOW MUCH WERE YOU DISTRESSED BY:	NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	EXTREMELY
1. Bodyaches	⓪	①	②	●	④

HOW MUCH WERE YOU DISTRESSED BY:		NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	EXTREMELY
1.	Headaches	1	⓪	①	②	③	④
2.	Nervousness or shakiness inside	2	⓪	①	②	③	④
3.	Repeated unpleasant thoughts that won't leave your mind	3	⓪	①	②	③	④
4.	Faintness or dizziness	4	⓪	①	②	③	④
5.	Loss of sexual interest or pleasure	5	⓪	①	②	③	④
6.	Feeling critical of others	6	⓪	①	②	③	④
7.	The idea that someone else can control your thoughts	7	⓪	①	②	③	④
8.	Feeling others are to blame for most of your troubles	8	⓪	①	②	③	④
9.	Trouble remembering things	9	⓪	①	②	③	④
10.	Worried about sloppiness or carelessness	10	⓪	①	②	③	④
11.	Feeling easily annoyed or irritated	11	⓪	①	②	③	④
12.	Pains in heart or chest	12	⓪	①	②	③	④
13.	Feeling afraid in open spaces or on the streets	13	⓪	①	②	③	④
14.	Feeling low in energy or slowed down	14	⓪	①	②	③	④
15.	Thoughts of ending your life	15	⓪	①	②	③	④
16.	Hearing voices that other people do not hear	16	⓪	①	②	③	④
17.	Trembling	17	⓪	①	②	③	④
18.	Feeling that most people cannot be trusted	18	⓪	①	②	③	④
19.	Poor appetite	19	⓪	①	②	③	④
20.	Crying easily	20	⓪	①	②	③	④
21.	Feeling shy or uneasy with the opposite sex	21	⓪	①	②	③	④
22.	Feelings of being trapped or caught	22	⓪	①	②	③	④
23.	Suddenly scared for no reason	23	⓪	①	②	③	④
24.	Temper outbursts that you could not control	24	⓪	①	②	③	④
25.	Feeling afraid to go out of your house alone	25	⓪	①	②	③	④
26.	Blaming yourself for things	26	⓪	①	②	③	④
27.	Pains in lower back	27	⓪	①	②	③	④
28.	Feeling blocked in getting things done	28	⓪	①	②	③	④
29.	Feeling lonely	29	⓪	①	②	③	④
30.	Feeling blue	30	⓪	①	②	③	④
31.	Worrying too much about things	31	⓪	①	②	③	④
32.	Feeling no interest in things	32	⓪	①	②	③	④
33.	Feeling fearful	33	⓪	①	②	③	④
34.	Your feelings being easily hurt	34	⓪	①	②	③	④
35.	Other people being aware of your private thoughts	35	⓪	①	②	③	④

Please continue on the following page ▶

SCL—90—R*

SIDE 2

HOW MUCH WERE YOU DISTRESSED BY

			NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	EXTREMELY
36.	Feeling others do not understand you or are unsympathetic	36	0	1	2	3	4
37.	Feeling that people are unfriendly or dislike you	37	0	1	2	3	4
38.	Having to do things very slowly to insure correctness	38	0	1	2	3	4
39.	Heart pounding or racing	39	0	1	2	3	4
40.	Nausea or upset stomach	40	0	1	2	3	4
41.	Feeling inferior to others	41	0	1	2	3	4
42.	Soreness of your muscles	42	0	1	2	3	4
43.	Feeling that you are watched or talked about by others	43	0	1	2	3	4
44.	Trouble falling asleep	44	0	1	2	3	4
45.	Having to check and double-check what you do	45	0	1	2	3	4
46.	Difficulty making decisions	46	0	1	2	3	4
47.	Feeling afraid to travel on buses, subways, or trains	47	0	1	2	3	4
48.	Trouble getting your breath	48	0	1	2	3	4
49.	Hot or cold spells	49	0	1	2	3	4
50.	Having to avoid certain things, places, or activities because they frighten you	50	0	1	2	3	4
51.	Your mind going blank	51	0	1	2	3	4
52.	Numbness or tingling in parts of your body	52	0	1	2	3	4
53.	A lump in your throat	53	0	1	2	3	4
54.	Feeling hopeless about the future	54	0	1	2	3	4
55.	Trouble concentrating	55	0	1	2	3	4
56.	Feeling weak in parts of your body	56	0	1	2	3	4
57.	Feeling tense or keyed up	57	0	1	2	3	4
58.	Heavy feelings in your arms or legs	58	0	1	2	3	4
59.	Thoughts of death or dying	59	0	1	2	3	4
60.	Overeating	60	0	1	2	3	4
61.	Feeling uneasy when people are watching or talking about you	61	0	1	2	3	4
62.	Having thoughts that are not your own	62	0	1	2	3	4
63.	Having urges to beat, injure, or harm someone	63	0	1	2	3	4
64.	Awakening in the early morning	64	0	1	2	3	4
65.	Having to repeat the same actions such as touching, counting, or washing	65	0	1	2	3	4
66.	Sleep that is restless or disturbed	66	0	1	2	3	4
67.	Having urges to break or smash things	67	0	1	2	3	4
68.	Having ideas or beliefs that others do not share	68	0	1	2	3	4
69.	Feeling very self-conscious with others	69	0	1	2	3	4
70.	Feeling uneasy in crowds, such as shopping or at a movie	70	0	1	2	3	4
71.	Feeling everything is an effort	71	0	1	2	3	4
72.	Spells of terror or panic	72	0	1	2	3	4
73.	Feeling uncomfortable about eating or drinking in public	73	0	1	2	3	4
74.	Getting into frequent arguments	74	0	1	2	3	4
75.	Feeling nervous when you are left alone	75	0	1	2	3	4
76.	Others not giving you proper credit for your achievements	76	0	1	2	3	4
77.	Feeling lonely even when you are with people	77	0	1	2	3	4
78.	Feeling so restless you couldn't sit still	78	0	1	2	3	4
79.	Feelings of worthlessness	79	0	1	2	3	4
80.	The feeling that something bad is going to happen to you	80	0	1	2	3	4
81.	Shouting or throwing things	81	0	1	2	3	4
82.	Feeling afraid you will faint in public	82	0	1	2	3	4
83.	Feeling that people will take advantage of you if you let them	83	0	1	2	3	4
84.	Having thoughts about sex that bother you a lot	84	0	1	2	3	4
85.	The idea that you should be punished for your sins	85	0	1	2	3	4
86.	Thoughts and images of a frightening nature	86	0	1	2	3	4
87.	The idea that something serious is wrong with your body	87	0	1	2	3	4
88.	Never feeling close to another person	88	0	1	2	3	4
89.	Feelings of guilt	89	0	1	2	3	4
90.	The idea that something is wrong with your mind	90	0	1	2	3	4

CODE:_____

MANITOBA CANCER TREATMENT & RESEARCH FOUNDATION
FUNCTIONAL LIVING INDEX: CANCER (FLIC)

Date _____

PLEASE INDICATE WITH AN X YOUR RATING.

1. How well do you appear today?

1	2	3	4	5	6	7
Extremely Poor						Extremely Well

2. Rate your confidence in your prescribed course of treatment.

1	2	3	4	5	6	7
No Confidence						Very Confident

3. How much of your pain or discomfort over the past 2 weeks was related to your cancer?

1	2	3	4	5	6	7
None						All

4. Rate how willing you were to see and spend time with friends, in the past 2 weeks.

1	2	3	4	5	6	7
Unwilling						Very Willing

5. Rate the degree to which you are frightened of the future.

1	2	3	4	5	6	7
Constantly Terrified						Not Afraid

6. How much nausea have you had in the past 2 weeks.

1	2	3	4	5	6	7
None						A Great Deal

7. Rate how willing you were to see and spend time with those closest to you, in the past 2 weeks.

1	2	3	4	5	6	7
Unwilling						Very Willing

8. How much of your usual household tasks are you able to complete?

1	2	3	4	5	6	7
All						None

9. Rate the degree to which your cancer has imposed a hardship on you (personally) in the past 2 weeks.

1	2	3	4	5	6	7
Tremendous Hardship						No Hardship

10. How much is pain or discomfort interfering with your daily activities?

1	2	3	4	5	6	7
Not At All						A Great Deal

11. Rate in your opinion, how disruptive your cancer has been to those closest to you in the past 2 weeks.

1	2	3	4	5	6	7
Totally Disruptive						No Disruption

12. How uncomfortable do you feel today?

1	2	3	4	5	6	7
Not At All						Very Uncomfortable

13. Rate your satisfaction with your work and your jobs around the house in the past month.

1	2	3	4	5	6	7
Very Dissatisfied						Very Satisfied

14. Rate how often you feel discouraged about your life.

1	2	3	4	5	6	7
Always						Never

15. Rate the degree to which your cancer has imposed a hardship on those closest to you in the past 2 weeks.

1	2	3	4	5	6	7
No Hardship						Tremendous Hardship

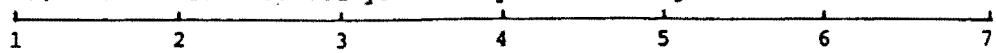
16. Do you feel well enough to make a meal or do minor household repairs today?

1	2	3	4	5	6	7
Very Able						Not Able

17. How well do you feel today?

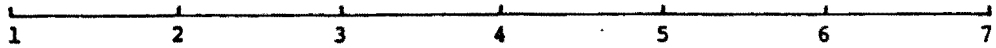
1	2	3	4	5	6	7
Extremely Poor						Extremely Well

18. Has nausea affected your daily functioning?



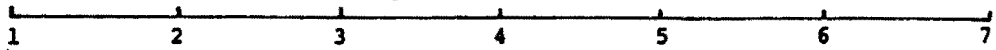
1 2 3 4 5 6 7
Not At All A Great Deal

19. Rate your ability to maintain your usual recreation or leisure activities.



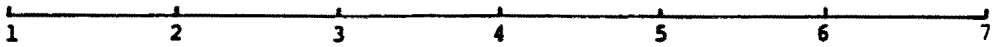
1 2 3 4 5 6 7
Able Unable

20. How much time do you spend thinking about your illness?



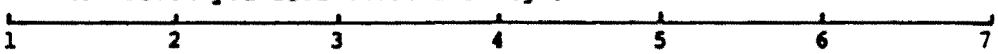
1 2 3 4 5 6 7
Constantly Never

21. How well are you coping with your everyday stress?



1 2 3 4 5 6 7
Not Well Very Well

22. Most people experience some feelings of depression at times. Rate how often you feel these feelings.



1 2 3 4 5 6 7
Never Continually

Code: _____

SYMPTOM DISTRESS SCALE

Please put a circle around the number that most clearly measures:

1. How often you've felt nauseous this week (frequency)?
   I have felt sick all the time. 5 4 3 2 1 Have not felt sick at all.

2. How intensely you've felt nauseous this week (intensity)?
   As sick as I could possibly be. 5 4 3 2 1 I have not felt sick.

3. How hungry you've felt this week?
   Can't face food at all. 5 4 3 2 1 Normal appetite.

4. How well you've been sleeping this week?
   Couldn't have been worse. 5 4 3 2 1 Perfect nights.

5. How often you've felt pain this week (frequency)?
   In pain all the time. 5 4 3 2 1 Never in pain.

6. How much pain you've been in this week (intensity)?
   Worst pain I have ever had. 5 4 3 2 1 No pain.

7. How mobile you've been this week?
   Not able to get around. 5 4 3 2 1 Able to do everything.

8. How tired you've felt this week?
   Could not feel more tired. 5 4 3 2 1 Have not been tired at all.

9. How regular your bowel patterns have been this week?
   The worst I've ever had. 5 4 3 2 1 Normal bowel patterns.

10. How well you've been able to concentrate this week?
    Unable to concentrate at all. 5 4 3 2 1 Normal concentration.

11. How well you have appeared this week?
    The worst I've ever looked. 5 4 3 2 1 Appearance has not changed.

12. How much trouble you've had breathing this week?
    The worst its ever been. 5 4 3 2 1 No problems breathing.

13. How much you've coughed this week?
    The worst its ever been. 5 4 3 2 1 No coughing.

APPROVAL SHEET

The thesis submitted by Anne Pelissier Montague has been read and approved by the following committee:

Pat Rupert, Ph.D., Director
Associate Profesor, Psychology
Loyola University of Chicago

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The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval by the Committee with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Arts.

April 13, 1989
Date

Patricia Rupert
Director's Signature